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(54) COMPUTERIZED PREPRESS

ON-LINE DRUCKVORBEREITUNG
PREPRESSE INFORMATISEE

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Description

[0001] This invention relates generally to print and print-publishing prepress, and more particularly to such prepress that is computerized.

[0002] The publishing process typically requires several steps to successfully complete a printed publication. Such steps include planning and organizing, design and content development, and prepress tasks where electronic files are prepared to be reproduced with ink on paper. Broadly speaking, prepress involves the preparation of all the electronic files that will be utilized to create a publication printed with paper and ink. For a professional publication, this usually involves utilizing an authoring program to create the electronic version of the publication itself, and then using another program (which may be a component of the authoring program), to translate this electronic version into a format from which paper and ink copies of the publication can be printed.

[0003] Portions if not all of the prepress process are difficult for non-professionals to accomplish, however. While tools such as Adobe PageMaker and Quark Express enable professionals to more easily create professional-looking documents, most non-professionals find these computer programs overly complex and difficult to use. That is, although the computers sitting on the desks of such non-professionals are sufficiently powerful to handle such tasks, the users themselves may not be sufficiently knowledgeable to perform them. Furthermore, even for experienced professionals, the prepress process is fraught with uncertainty; for example, the professional must know the type of paper and ink output that is desired a priori before translating an electronic version of a document into a format from which paper and ink copies can be printed. That is, even for experienced professionals, the prepress process is not tightly integrated enough to attain fast, easy and cost-effective print publishing.

[0004] It is known from US-A-5580177 for multiple clients to access multiple printers via a server. When a client requests print operation, the server checks whether the client has the most up to date printer driver and, if not, updates the printer driver at the client accordingly.

[0005] Aspects of the present invention are set out in the appended claims.

[0006] Embodiments of the present invention will be understood by reading and studying the following specification. In one embodiment, a computerized prepress system includes three components: a server, a client and a printer. The server has stored thereon an authoring program to create a document, and a translation program to translate the document to a suitable prepress format. The client downloads the authoring program from the server to create the document, and then uploads the document to the server for translation to the suitable prepress format. The printer receives the document as translated to the suitable prepress format from

the server, such that the printer may then print copies of the document.

[0007] More specifically, in one particular embodiment of the invention, the authoring program is written in the programming language Java, and the client, server and printer are each connected to an intranet or to the Internet. Thus, a user at the client needs only to run a web browser program, such as Netscape Navigator, to access the server and download and run the authoring program. Once the user has created a document with the authoring program, it is saved at the server. The server may then as required translate the document into a suitable prepress format - such as PostScript - and send it to the printer (e.g., as a MIME-compliant electronic mail) for printing.

[0008] The preferred embodiment thus provides for several advantages. The user at the client does not need to know anything about the prepress format required by the printer. Since the server stores the authoring program that is then downloaded to the client for creation of a document, the server can maintain the authoring program such that it knows both the format to which the authoring program saves the document, and the format to which the document must be translated for printing at the printer. Furthermore, the authoring program stored at the server may be as simple as necessary for novice users to comfortably use, or as powerful as necessary for experienced users to use. The professional user benefits from the tight integration of the invention, in that the professional user need only be concerned with creating the document, and not the manner by which the document will ultimately be printed with paper and ink, which may already be preselected within the server.

[0009] In different embodiments of the invention, computerized methods, computerized systems, computers, and computer-readable media of varying scope are described. Still other and further embodiments, aspects and advantages of the invention will become apparent by reference to the drawings and by reading the following detailed description.

FIG. 1 is a diagram of a computer in conjunction with which embodiments of the invention may be implemented;

FIG. 2 is a diagram of a computerized prepress system in accordance with one embodiment of the invention;

FIG. 3 is a diagram of a computerized prepress method in accordance with one embodiment of the invention; and,

FIGs. 4a-4m are diagrams of screens displayed on a display device of a computer in conjunction with one embodiment of the invention.

[0010] In the following detailed description of the preferred embodiments, reference is made to the accompanying drawings which form a part hereof, and in which

is shown by way of illustration specific preferred embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that logical, mechanical and electrical changes may be made without departing from the scope of the present invention. The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is defined only by the appended claims.

[0011] Referring first to FIG. 1, a diagram of a computer in conjunction with which embodiments of the invention may be implemented is shown. Computer 110 is operatively coupled to display device 112, pointing device 114, and keyboard 116. Computer 110 includes a processor (preferably, an Intel Pentium processor), random-access memory (RAM) (preferably, at least thirty-two megabytes), read-only memory (ROM), and one or more storage devices, such as a hard disk drive, a floppy disk drive (into which a floppy disk can be inserted), an optical disk drive, and a tape cartridge drive. The memory, hard drives, floppy disks, etc., are types of computer-readable media. The hard drives and floppy disks are more specifically types of nonvolatile store media. Computer programs running on the computer are executed by the processor from the computer-readable media. The embodiments are not particularly limited to any type of computer 110. Computer 110 preferably is a PC-compatible computer or a MacOS-compatible computer. The construction and operation of such computers are well known within the art.

[0012] Furthermore, computer 110 may be communicatively connected to the Internet via a communication device, any particular manner and which is not shown in FIG. 1. Internet connectivity is well known within the art. In one embodiment, the computer includes a communication device that is a modem and corresponding communication drivers to connect to the Internet via what is known in the art as a "dial-up connection." In another embodiment, the computer includes a communication device that is an Ethernet or similar hardware (network) card to connect to a local-area network (LAN) that itself is connected to the Internet via what is known in the art as a "direct connection" (eg., T1 line, etc.).

[0013] Computer 110 also has at least one operating environment running thereon, each desirably providing a graphical user interface including a user-controllable pointer. Such operating environments include operating systems such as versions of the Microsoft Windows and Apple MacOS operating systems known in the art. The embodiments are not limited to any particular operating environment, however, and the construction and use of such operating environments are well known within the art. Computer 110 also desirably has at least one web browser application program running with at least one operating environment, to permit users of computer 110 to access intranet or Internet world-wide-web pages as

addressed by Universal Resource Locator (URL) addresses. Such browser application programs include Netscape Navigator and Microsoft Internet Explorer.

- 5 **[0014]** Display device 112 permits the display of information, including computer, video and other information, for viewing by a user of the computer. The embodiments are not limited to any particular display device 112. Such display devices include cathode ray tube (CRT) displays (monitors), as well as flat panel displays such as liquid crystal displays (LCD's). Pointing device 114 permits the control of the screen pointer provided by the graphical user interface of operating systems such as versions of Microsoft Windows. The embodiments are not limited to any particular pointing device 114. Such pointing devices include mice, touch pads, trackballs, remote controls and point sticks. Finally, keyboard 116 permits entry of textual information into computer 110, as known within the art, and the embodiments are not limited to any particular type of keyboard.
- 10 **[0015]** Referring next to FIG. 2, a diagram of a computerized system in accordance with one embodiment of the invention is shown. Each of client computer 200, server computer 202, and printer computer 204 is a computer, such as that shown in and described in conjunction with FIG. 1, although the invention is not so limited. Thus, each of client computer 200, server computer 202, and printer computer 204 has a processor, a computer-readable medium from which computer programs are executed by the processor, and a communications device, such as a network card, or a modem. Client computer 200, server computer 202, and printer computer 204 are communicatively coupled to one another via the Internet 206. Note that in one embodiment, Internet 206 is replaced by an extranet or an intranet, as known within the art, and as may be found in corporate and other environments.
- 15 **[0016]** Server computer 202 is desirably an extranet, intranet or Internet world-wide-web server, as known in the art, such that it has assigned thereto a Universal Resource Locator (URL) address to permit client computer 200, as well as other computers, to access the server. The embodiments are not particularly limited to a type of server 202. Typical examples include those running software available from Netscape, Microsoft, Apache, NCSA, and others. Server 202 is also not limited to running on a particular operating system (OS); common operating systems including Microsoft Windows 95, Microsoft Windows NT, Apple MacOS and UNIX.
- 20 **[0017]** Server computer 202 has stored thereon authoring program 208. Authoring program 208 is downloaded from server 202 by and to client 200 through the Internet 206, although this is more directly represented by arrow 210. Authoring program 208 desirably is run within operating environment 212 running on client 200.
- 25 Such an operating environment 212 includes those provided by extranet, intranet and Internet world-wide-web browser programs such as Microsoft Internet Explorer and Netscape Navigator. For example, in one embodiment, client 200 includes a web browser application program running with operating environment 212, to permit users of client 200 to access intranet or Internet world-wide-web pages as

ment, authoring program 208 is coded in the programming language Java, such that program 208 is a Java applet that is downloaded through the Internet by client 200, and runs within an operating environment 212 that is a browser program that is Java capable. In other embodiments of the invention, authoring program 208 may be coded in the programming language Perl, C, C++, ActiveX, or other programming languages.

[0018] Authoring program 208 is used within client computer 200 to create document 214. Document 214 is a document created by the user of computer 200, using authoring program 208, for printing and publishing. The embodiments are not limited to any type of authoring program 208; in one embodiment of the invention, authoring program 208 is that which is shown in and will be described in conjunction with FIGs. 4a-4m. The embodiment is also not limited to any particular document 214. In one embodiment of the invention, document 214 is a business card; however, other documents amenable to the invention include letterheads, pamphlets, brochures, envelopes, etc.

[0019] Once document 214 has been created at client 200, it is uploaded to server 202 for saving at the server, through the Internet 206, as more directly represented by arrow 216. Document 214 is saved at the server 202 on a nonvolatile storage device of the server, such as a hard disk drive. It is saved in an internal file format that maximizes efficiency in the storage of the document. Once the document 214 is ready to be sent to a printer for printing and publication (as may be indicated by client 200 to server 202), server 202 runs translation program 218 on document 214 (program 218 being stored on server 202) as saved in the internal file format to generate a translated document 220, as represented by arrow 222. The translation program 218 translates document 214 into a file format suitable for prepress, such as PostScript. Other file formats suitable for prepress include HTML, PDF, and PostScript extreme, as known within the art. Translation program 218 performs any color separations, or other operations as required by the suitable prepress file format. The embodiment is not limited to any particular suitable prepress file format.

[0020] Server 202 then transmits the translated document 220 through the Internet 206 to printer 204, as more directly represented by arrow 224. In one embodiment, this is accomplished by server 202 attaching the translated document 220 as an attachment file to a MIME-compliant electronic mail, which may then be sent to the electronic mail address of printer 204. However, the embodiment is not limited to any manner by which such transmission occurs. Once the printer 204 has received the translated document 220, document 220 may then be printed and published as needed.

[0021] Referring next to FIG. 3, a flowchart of a computerized method according to an embodiment of the invention is shown. This method is inclusive of the steps or acts required to be taken by a client computer, a server computer, and a printer computer to create a docu-

ment at the client computer, for translation by the server computer, and for printing at the printer computer, in accordance with one embodiment of the invention. These steps or acts are performed in accordance with one or

5 more computer programs, such as authoring programs, and translation programs, as have been described in conjunction with FIG. 2. The embodiment of the invention described in conjunction with FIG. 3 refers to the situation where the client, the server and the printer are 10 communicatively coupled to one another through the Internet, where the client is running a web browser program and the server is a web server.

[0022] In step 300, the client computer accesses the 15 web site of the web server, as referenced by a URL address, through its web browser program, and logs onto the web server. Logging on to the server desirably includes submitting user information regarding the user at the client, such as the user's name and password. Once the server has received this information, it authenticates 20 the user, looking up the user information submitted to determine whether such a user exists, and whether the password for the user is correct. Authentication also includes associating the user with a particular directory on the server computer (e.g., on which to store the documents created by the user), a set of defaults regarding 25 options available to the user within the authoring program (e.g., fonts, colors, images and commands), and an authorization level. The authorization level dictates what the user is permitted to do within the program; for example, a "normal" user may be allowed to create, save and print his or her own documents, an "administrator" may be permitted to access anyone's documents within the administrator's work group, and a "demonstration" user is permitted to create documents, but not 30 permitted to save or print them.

[0023] In step 302, the client downloads the authoring 35 program from the server. As has been described, in one embodiment the authoring program is coded in Java, such that the program is a Java applet running within the browser program of the client. In step 304, the client then uses the authoring program to create a document, such as a business card, a letterhead, etc. Once the document has been created, in step 306 the client selects a save command, which uploads the document to 40 the server, where it is saved. Steps 300 through 306 are iterative; the user at the client may continually save the document to the server, and then relogon at a subsequent time to again revise the document.

[0024] Once the document is in final form according 45 to the user, the user selects a print command in step 308. This signals the server to translate the document into a suitable prepress format, such as PostScript, or another format as previously described, and send the document to the printer computer in step 310, such as an electronic mail attachment. Thus, the internal format 50 in which the document is saved in step 306 is different than the format to which the document is translated in step 308 and sent to the printer in step 310. Once the

printer receives the document, the document may then be printed and published.

[0025] Referring next to FIGs. 4a-4m, diagrams of screens displayed on a display device of a computer in conjunction with one embodiment of the invention are shown. More particularly, the diagrams are screens regarding an authoring program according to one embodiment of the invention. Referring first to FIG. 4a, within display device 400 is operating environment window 402 within which the authoring program runs. Specifically, operating environment window 402 is part of a web browser program, such as Netscape Navigator. The authoring program is a Java applet that runs within the web browser. The authoring program includes six primary areas: menu bar 404, tool bar 406, orientation bar 408, work area 410, color palette area 412, and properties area 414. The user of the computer utilizes tool bar 406, orientation bar 408, menu bar 404, color palette area 412, and properties area 414 as tools to create a document within work area 410. Work area 410 is sized in accordance with the type of document to be created. For example, as shown in FIG. 4a, the type of document to be created is a business card. The properties area 414 shows commands that may be used in conjunction with the currently selected tool from tool bar 406.

[0026] Clicking "file" on menu bar 404 drops down the file menu, as shown in FIG. 4b. The file menu permits a user to create a new document, such as a business card, letterhead, or envelope, insert an image, open or save a document, revert the current work area to the document as most recently saved, or print to a file (i.e., cause the translation program to be run). The images are saved as files on the server in a particular format, such as encapsulated PostScript, TIFF, GIF, and JPEG. Desirably, the images have a maximum resolution of 1:1, to minimize the size of the encapsulated PostScript file (or file in another format). Opening or saving a document retrieves or stores a document, respectively, on a computer-readable medium of the server. Printing the document to a file causes the translation program to run, such that the file is translated to a format suitable for prepress, and then sent to the printer.

[0027] Clicking "View" on menu bar 404 drops down the view menu, as shown in FIG. 4c. The view menu permits a user to call up different tools of the authoring program, which may have become hidden from view (e.g., by previous user choice), or previously unselected by the user. Selecting "Toolbar" calls up tool bar 406. Selecting "Move to Front/Move to Back" calls up orientation bar 408. Selecting "Color Palette" brings up color palette area 412. Selecting "Properties" brings up properties area 414. Selecting "Rulers" brings into view rulers 416 and 414, each on a side of work area 410. Finally, selecting "Grid" causes a grid to be superimposed on work area 410 (not shown in FIG. 4c).

[0028] Clicking "Edit" on menu bar 404 drops down the edit menu, as shown in FIG. 4d. The edit menu permits a user to cut, copy, paste selected elements (i.e.,

objects) within work area 410, or select all the elements, such that the user is then able to cut, copy, or paste all the elements. The cut, copy, and paste commands thus operate as known to those of ordinary skill within the art.

[0029] Color palette area 412 is described in conjunction with FIG. 4e. The user is able to select both stroke and fill color from a menu of predetermined colors. The stroke color refers to the color in which the boundaries of a particular object is drawn within work area 410 (not shown in FIG. 4e), while the fill color refers to the color inside the boundaries of the particular object within work area 410. Colors may be added within the menu of predetermined colors by defining a new color, accomplished by pressing the define new colors button, which brings up window 418. Within the window, the user is able to select new colors, which are desirably the entire palette of colors available from Pantone, as known within the art. In other embodiments, colors are selected from palettes of colors available from Toyo, Focaltone, or Tru-match, as also known within the art.

[0030] Referring next to FIG. 4f, selecting the arrow tool on tool bar 406 allows the user to select an object within work area 410. Selecting the circle tool on tool bar 406 enables a user to create a circle or oval, such as that shown in work area 410 in FIG. 4f. Referring next to FIG. 4g, selecting the rectangle tool on tool bar 406 permits a user to create a rectangle, such as that shown in work area 410 in FIG. 4g. Referring next to FIG. 4h, selecting the line tool on tool bar 406 enables a user to create a line, such as that shown in work area 410 in FIG. 4h. In the creation of a circle, rectangle, or line, the authoring program performs the creation of the particular object (e.g., the circle, the rectangle, or the line) itself, and does not consult the server to determine the manner in which the object is to be created.

[0031] Conversely, selecting the text tool on tool bar 406 causes the authoring program to first allow the user to input the text to be entered on work area 410, displaying the text in a rough manner. Next, the authoring program sends the text to the server, which translates the text into an image, desirably an image in GIF format and having a maximum resolution of 4:1, which is then sent back to the client for display on work area 410. (Other image formats include JPEG and TIFF; the invention is not so limited.) This is shown in conjunction with FIG. 4i and 4j. In FIG. 4i, the user has entered the text string "Hello world" but has not yet pressed return; therefore, the text string is shown in a rough manner. Once the user presses return, the client sends the text string to the server for conversion to an image, which is then sent to the client and displayed on work area 410, as is shown in FIG. 4j. The reason this is accomplished is that different computers have different font generation engines, while the authoring program is desirably a what-you-see-is-what-you-get (WYSIWYG) program, showing the user on the display device exactly what will be printed at the printer.

[0032] Referring next to FIG. 4k, selecting the zoom

tool on tool bar 406 enables a user to zoom in and out on the document within work area 410, as is shown in FIG. 4k. Referring to FIG. 4l, selecting the color picker tool (tool 450) on tool bar 406 enables a user to set a color within color palette area 412 to that of a current object within work area 410. For example, clicking within object 452 in work area 410 while using the color picker tool sets the current fill color to that of the fill color of object 452. This enables users to precisely set a color to an already existing color within the document, which is especially advantageous in situations where there are multiple shades of one color in a document, which may be difficult to discern.

[0033] Selecting the top icon within orientation bar 408 brings the currently selected object within area 410 to the front of other objects. For example, as shown in FIG. 4l, selecting the top icon while object 452 is selected (as denoted by dots outlining the rectangular boundary of the object) brings object 452 to the front, over the other object within the work area (e.g., object 454). Conversely, selecting the bottom icon within orientation bar 408 moves the currently selected object within area 410 to the back of other objects. For example, as shown in FIG. 4m, selecting the bottom icon while object 452 is selected moves object 452 to the back, behind the other object within the work area (e.g., object 454).

[0034] Computerized prepress has been described. Although specific embodiments have been illustrated and described herein, it will be appreciated by those of ordinary skill in the art that any arrangement which is calculated to achieve the same purpose may be substituted for the specific embodiments shown. This application is intended to cover any adaptations or variations of the present invention. For example, the invention is fully intended to cover databases as well as dynamic directories, such that the term directory may be interpreted to encompass any database amenable to the invention in such an embodiment of the invention. Therefore, it is manifestly intended that this invention be limited only by the following claims.

[0035] In the above description, the following are acknowledged as trademarks:

PostScript, Java, Netscape Navigator, Microsoft Internet Explorer, Microsoft Windows, AppleMacOS, UNIX, Perl, ActiveX, Pantone, Toyo, Focaltone, Tru-Match, PostScript Extreme.

Claims

1. A method of operating computer apparatus (202) in a system for facilitating creation of an electronic document (214) to be output as a printed document wherein creation of the electronic document is user controlled by operation of a client computer (200) in network communication with the computer appara-

tus and printing of the electronic document is by operation of a printer (204) in communication with the computer apparatus, said computer apparatus storing a computerized prepress software system (208, 218) which includes a downloadable document authoring program (208) comprising one or more authoring tools for authoring the electronic document and a prepress translation component (218) operable to produce a prepress format file (220) from the electronic document authored by the authoring program;

the method steps performed by the computer apparatus comprising:

15 outputting (302) the authoring program via the network communication for downloading the authoring program to the client computer; receiving (306) via the network communication the electronic document authored using the authoring program; saving (306) the electronic document in an internal format of the computer apparatus; and translating (308) the electronic document using the translation component from the internal format to a file in a different prepress format which is usable to produce a corresponding printed document on the printer;

30 wherein the authoring program provided by the computer apparatus is adapted for being executed by a browser in the client computer so as to provide a display output representing the electronic document in a form in which it is to appear in the printed document, and at least one of the authoring tools has one or more functions for allowing a user to select and edit at least one element of the electronic document while at least a portion of the electronic document is simultaneously displayed.

- 35 2. A method as claimed in claim 1 wherein the saving step saves the electronic document in a form allowing the translation component to create the prepress format file such that, when the prepress format file is used to produce the printed document, the printed document is consistent with the form in which the electronic document is displayed to the user on the client computer.
- 40 3. The method of claim 1, wherein the client computer and the computer apparatus are communicatively coupled to one another through the Internet.
- 45 4. The method of claim 1, wherein the client computer and the computer apparatus are communicatively coupled to one another through an intranet.
- 50 5. The method of claim 1, wherein the client computer and the computer apparatus are communicatively

- coupled to one another through an extranet.
6. The method of claim 1, comprising the further step of authenticating the user at the computer apparatus by associating the user with at least one of a particular directory on the computer apparatus, a set of defaults regarding fonts, colors, images and commands available to the user, and an authorization level selected from the group of authorization levels comprising normal, administrator, and demonstration. 10
7. The method of claim 1, wherein the authoring program is coded in a language selected from a group comprising Perl, Java, C++, C, and ActiveX. 15
8. The method of claim 1, wherein the document is selected from a group comprising a business card, a letterhead, an envelope, and a brochure. 20
9. The method of claim 1, wherein the authoring program comprises a color palette area to select a color from a palette of colors. 25
10. The method of claim 9, wherein the palette of colors comprises a palette of colors available from one selected from a group comprising Pantone, Toyo, Focaltone, and Tru-Match. 30
11. The method of claim 1, wherein the authoring program comprises a text tool for creating a text portion of the electronic document, the method comprising receiving desired text sent from the client computer, translating the text into an image and sending the image from the computer apparatus back to the client computer. 35
12. The method of claim 11, wherein the image is in a format selected from a group comprising GIF, TIFF, and JPEG. 40
13. The method of claim 1, wherein the document includes one or more images, at least one of the images being in a format selected from a group comprising encapsulated PostScript, TIFF, GIF, and JPEG. 45
14. The method of claim 1, wherein the different format is selected from a group comprising PostScript, HTML, PDF, and PostScript Extreme. 50
15. The method of claim 1, comprising sending the document in the prepress format file to a location remote from the computer apparatus for printing by the printer at the remote location. 55
16. The method of claim 14, comprising generating an electronic mail for submission to the printer includ-
- ing an attachment comprising the prepress format file wherein the electronic mail is MIME-compliant.
17. A method of operating a client computer (200) to create an electronic document (214) for translation at a computer apparatus (202) into a prepress format file (220) in accordance with a method of any preceding claim, the method steps performed by the client computer comprising:
- receiving a downloaded authoring program (208) from the computer apparatus;
- responsive to the user using at least one authoring tool of the downloaded program, editing an element of the electronic document; and
- sending the electronic document to the computer apparatus via the network communication;
- wherein the authoring program provided by the computer apparatus is executed by a browser in the client computer so as to provide a display output representing the electronic document in a form in which it is to appear in the printed document, and at least one of the authoring tools has one or more functions for allowing the user to select and edit at least one element of the electronic document while at least a portion of the electronic document is simultaneously displayed.
18. The method of claim 17, wherein the authoring program comprises a text tool for creating a text portion of the electronic document, the method comprising sending desired text to the computer apparatus for translating the text into an image and receiving the image from the computer apparatus. 35
19. Computer apparatus (202) for use in a system for facilitating creation of an electronic document (214) to be output as a printed document wherein creation of the electronic document is user controlled by operation of a client computer (200) in network communication with the computer apparatus and printing of the electronic document is performed by a printer (204) in communication with the computer apparatus, the computer apparatus comprising:
- storing means storing on the computer apparatus a computerized prepress software system (208, 218) which includes a downloadable document authoring program (208) comprising one or more authoring tools for authoring the electronic document and a prepress translation component (218) operable to produce a prepress format file (220) from the electronic document authored by the authoring program;
- means for outputting the authoring program via the network communication for downloading the authoring program to the client computer;

means for receiving via the network communication the electronic document authored using the authoring program;

saving means for saving (306) the electronic document in an internal format of the computer apparatus; and wherein the translation component is operable to translate the electronic document from the internal format to a file in a different prepress format which is usable to produce a corresponding printed document on the printer;

wherein the authoring program provided by the computer apparatus is adapted for being executed by a browser in the client computer so as to provide a display output representing the electronic document in a form in which it is to appear in the printed document, and at least one of the authoring tools has one or more functions for allowing a user to select and edit at least one element of the electronic document while at least a portion of the electronic document is simultaneously displayed.

20. Computer apparatus as claimed in claim 19 wherein the saving means is operable to save the electronic document on the computer apparatus in a form allowing the translation component executing on the computer apparatus to create the prepress format file such that, when the prepress format file is used to produce the printed document, the printed document is consistent with the form in which the electronic document is displayed to the user on the client computer.
21. A client computer (200) for creating an electronic document (214) for translation at a computer apparatus (202) into a prepress format file, the client computer comprising:

receiving means for receiving a downloaded authoring program (208) from the computer apparatus;

editing means responsive to the user using at least one authoring tool of the downloaded program to edit an element of the electronic document;

sending means for sending the electronic document to the computer apparatus via a network communication (206); and an operating environment program (212) for executing the authoring program provided by the computer apparatus so as to provide a display output representing the electronic document in a form in which it is to appear in the printed document, wherein at least one of the authoring tools has one or more functions for allowing the user to select and edit at least one element of the electronic document while at least a portion

of the electronic document is simultaneously displayed.

- 5 22. The client computer of claim 21, wherein the authoring program comprises a text tool for creating a text portion of the electronic document, the client computer comprising means for sending desired text to the computer apparatus for translating the text into an image and means for receiving the image from the computer apparatus.
- 10 23. A client computer as claimed in any of claims 21 and 22, the client computer comprising:
 - 15 a processor (110);
a computer-readable medium; and
a communications device;
 - 20 wherein the operating environment program comprises a web browser;
the authoring program being downloaded from the computer apparatus (202) through the communications device and executed by the processor from the medium within the operating environment program.
 - 25 24. The client computer of claim 23, wherein the computer-readable medium is selected from a group comprising memory and a nonvolatile storage medium.
 - 30 25. The client computer of claim 23, wherein the communications device is selected from a group comprising a modem and a network card.
 - 35 26. The client computer of claim 23, wherein the operating environment program comprises an Internet world-wide-web browser program.
 - 40 27. The client computer of claim 23, wherein the operating environment program comprises an intranet world-wide-web browser program.
 - 45 28. The client computer of claim 23, wherein the operating environment program comprises an extranet world-wide-web browser program.
 - 50 29. A computerised prepress system comprising the computer apparatus as claimed in claim 19 and the client computer as claimed in claim 21, and a printer (204) in communication with said computer apparatus.
 - 55 30. The computerized prepress system of claim 29, wherein the computer apparatus, the client computer and the printer are communicatively coupled to one another through the Internet (206).

31. The computerized prepress system of claim 29, wherein the computer apparatus, the client computer and the printer are communicatively coupled to one another through an intranet. 5
32. The computerized prepress system of claim 29, wherein the computer apparatus, the client computer and the printer are communicatively coupled to one another through an extranet. 10
33. The computerized prepress system of claim 29, wherein the computer apparatus comprises an internet world-wide-web server. 15
34. The computerized prepress system of claim 29, wherein the computer apparatus comprises an intranet world-wide-web server. 15
35. The computerized prepress system of claim 29, wherein the computer apparatus comprises an extranet world-wide-web server. 20
36. The computer prepress system of claim 29, wherein the authoring program runs on the client computer in an internet world-wide-web browser program. 25
37. The computerized prepress system of claim 29, wherein the browser program is selected from the group comprising Netscape Navigator and Microsoft Internet Explorer. 30
38. The computerized prepress system of claim 29, wherein the authoring program runs on the client in an intranet world-wide-web browser program. 35
39. The computerized prepress system of claim 29, wherein the authoring program runs on the client in an extranet world-wide-web browser program. 40
40. The computerized prepress system of claim 29, wherein the authoring program is coded in a language selected from the group comprising Perl, Java, C++, C, and ActiveX. 45
41. The computerized prepress system of claim 29, wherein the electronic document is selected from the group comprising a business card, a letterhead, an envelope, and a brochure. 50
42. The computerized prepress system of claim 29, wherein the authoring program comprises a color palette area to select a color from a palette of colors. 55
43. The computerized prepress system of claim 29, wherein the prepress format file is selected from a group comprising PostScript, HTML, PDF, and PostScript Extreme.
44. The computerized prepress system of claim 29, wherein the printer receives the document from the computer apparatus via an electronic mail to which the document is included as an attachment. 5
45. A computer readable medium having a computer program stored thereon for programming a computer to carry out all of the steps of a method as claimed in any one of claims 1 to 18. 10
46. An authoring program (208) for use in a method as claimed in any one of claims 1 to 18, the authoring program being adapted for being executed by a browser in the client computer so as to provide a display output representing the electronic document in a form in which it is to appear in the printed document, and at least one authoring tool having one or more functions for allowing a user to select and edit at least one element of the electronic document while at least a portion of the electronic document is simultaneously displayed. 15

Patentansprüche

1. Verfahren zum Betrieb eines Computergeräts (202) in einem System zur erleichterten Erzeugung eines als gedrucktes Dokument auszugebenden elektronischen Dokuments (214), wobei die Erzeugung des elektronischen Dokuments durch Betrieb eines mit dem Computergerät über Netzwerk verbundenen Client-Computers (200) benutzergesteuert wird und der Druck des elektronischen Dokuments durch Betrieb eines mit dem Computergerät verbundenen Druckers (204) erfolgt, wobei in dem Computergerät ein computerisiertes Druckvorbereitungs-Softwaresystem (208, 218) gespeichert ist, das ein herunterladbares Dokumententwicklungsprogramm (208) mit ein oder mehreren Entwicklungswerkzeugen zum Entwickeln des elektronischen Dokuments und eine Druckvorbereitungs-Übersetzungskomponente (218) zur Erzeugung einer Datei in einem Druckvorbereitungsformat (220) aus dem von dem Entwicklungsprogramm entwickelten elektronischen Dokument aufweist,
wobei die von dem Computergerät durchgeführten Verfahrensschritte umfassen:

Ausgeben (302) des Entwicklungsprogramms über die Netzwerkverbindung zum Herunterladen des Entwicklungsprogramms auf den Client-Computer,
Empfangen (306) des unter Verwendung des Entwicklungsprogramms entwickelten elektronischen Dokuments über die Netzwerkverbindung,
Sichern (306) des elektronischen Dokuments in einem internen Format des Computergeräts,

- und
Übersetzen (308) des elektronischen Dokuments unter Verwendung der Übersetzungs komponente aus dem internen Format in eine Datei in einem unterschiedlichen Druckvor bereitungsformat, die zur Erzeugung eines entsprechenden gedruckten Formats auf dem Drucker verwendbar ist,
- wobei das von dem Computergerät zur Verfügung gestellte Entwicklungsprogramm zur Ausführung mittels eines Browsers in dem Client-Computer geeignet ist, um eine Anzeige zu erzeugen, die das elektronische Dokument in einer Form wieder gibt, in der es in dem gedruckten Dokument erscheinen soll, und wobei mindestens eines der Entwicklungswerkzeuge ein oder mehrere Funktionen aufweist, die es einem Benutzer gestatten, mindestens ein Element des elektronischen Dokuments auszuwählen und zu editieren, während gleichzeitig mindestens ein Teil des elektronischen Dokuments angezeigt wird.
2. Verfahren nach Anspruch 1, wobei der Sicherungsschritt das elektronische Dokument in einer Form sichert, in der die Übersetzungs komponente eine Datei im Druckvorbereitungsformat derart zu erzeugen vermag, daß bei Benutzung dieser Datei zur Erzeugung des gedruckten Dokuments dieses mit der Form übereinstimmt, in der es auf dem Client-Computer dem Benutzer angezeigt wird.
 3. Verfahren nach Anspruch 1, wobei der Client-Computer und das Computergerät über das Internet kommunikativ miteinander gekoppelt sind.
 4. Verfahren nach Anspruch 1, wobei der Client-Computer und das Computergerät über ein Intranet kommunikativ miteinander gekoppelt sind.
 5. Verfahren nach Anspruch 1, wobei der Client-Computer und das Computergerät über ein Extranet kommunikativ miteinander gekoppelt sind.
 6. Verfahren nach Anspruch 1 mit einem weiteren Schritt, in dem die Berechtigung des Benutzers des Computergeräts dadurch geprüft wird, daß der Benutzer einem bestimmten Verzeichnis des Computergeräts und/oder einem Satz von Vorgaben bezüglich dem Benutzer zur Verfügung stehenden Schrifttypen, Farben, Bildern und Befehlen und/oder einem Autorisierpegel aus der Gruppe Normal, Administrator und Demonstration zugeordnet wird.
 7. Verfahren nach Anspruch 1, wobei das Entwicklungsprogramm in einer der Sprachen Perl, Java, C++, C und ActiveX codiert ist.
 8. Verfahren nach Anspruch 1, wobei das Dokument eine Visitenkarte, ein Briefkopf, ein Umschlag und/oder eine Broschüre ist.
 9. Verfahren nach Anspruch 1, wobei das Entwicklungsprogramm einen Farbpalettenbereich zur Auswahl einer Farbe aus einer Farbpalette aufweist.
 10. Verfahren nach Anspruch 9, wobei die Farbpalette eine Palette von Farben aus der Gruppe Pantone, Toyo, Focaltone und Tru-Match aufweist.
 11. Verfahren nach Anspruch 1, wobei das Entwicklungsprogramm ein Textwerkzeug zur Erzeugung eines Textabschnitts des elektronischen Dokuments umfaßt und zu dem Verfahren das Empfangen von seitens des Client-Computers übersandtem gewünschten Text, das Übersetzen des Texts in ein Bild und das Rücksenden des Bildes von dem Computergerät an den Client-Computer gehören.
 12. Verfahren nach Anspruch 11, wobei das Bild in einem der Formate GIF, TIFF und JPEG, vorliegt.
 13. Verfahren nach Anspruch 1, wobei das Dokument ein oder mehrere Bilder enthält von denen mindestens eines in einem Formate PostScript, TIFF, GIF und JPEG vorliegt.
 14. Verfahren nach Anspruch 1, wobei das unterschiedliche Format aus der Gruppe PostScript, HTML, PDF oder PostScript Extreme ausgewählt wird.
 15. Verfahren nach Anspruch 1, wobei das Dokument in der Datei mit dem Druckvorbereitungsformat von dem Computergerät an einen entfernten Ort zum Drucken auf dem Drucker an dem entfernten Ort übersandt wird.
 16. Verfahren nach Anspruch 14, wobei ein E-Mail zur Übertragung an den Drucker erzeugt wird, die als Anlage die Datei in dem Druckvorbereitungsformat enthält, und wobei die E-Mail MIME-gerecht ist.
 17. Verfahren zum Betrieb eines Client-Computers (200) zur Erzeugung eines elektronischen Dokuments (214) zum Übersetzen in einem Computergerät (202) in eine Datei (220) in einem Druckvorbereitungsformat gemäß einem Verfahren nach einem der vorhergehenden Ansprüche, wobei die von dem Client-Computer durchgeführten Schritte umfassen:
- Empfangen eines heruntergeladenen Entwicklungsprogramms (208) von dem Computergerät,
Editieren eines Elements des elektronischen

- Dokuments entsprechend der Verwendung mindestens eines Entwicklungswerkzeugs in dem heruntergeladenen Programm durch den Benutzer, und
 Rücksenden des elektronischen Dokuments an das Computergerät über die Netzwerkverbindung,
 wobei das von dem Computergerät zur Verfügung gestellte Entwicklungsprogramm von einem Browser in dem Client-Computer zur Erzeugung einer Anzeige ausgeführt wird, die das elektronische Dokument in einer Form wiedergibt, in der es in dem gedruckten Dokument erscheinen soll, und wobei mindestens eines der Entwicklungswerkzeuge eine oder mehrere Funktionen aufweist, die es dem Benutzer gestatten, mindestens ein Element des elektronischen Dokuments auszuwählen und zu editieren, während gleichzeitig mindestens ein Teil des elektronischen Dokuments angezeigt wird.
18. Verfahren nach Anspruch 17, wobei das Entwicklungsprogramm ein Textwerkzeug zum Erzeugen eines Textteils des elektronischen Dokuments aufweist, und wobei zu dem Verfahren das Senden von gewünschtem Text an das Computergerät zum Übersetzen des Textes in ein Bild und das Empfangen des Bildes von dem Computergerät gehören.
19. Computergerät (202) zur Verwendung in einem System zum erleichterten Erzeugen eines als gedrucktes Dokument auszugebenden elektronischen Dokuments (214), wobei die Erzeugung des elektronischen Dokuments durch den Betrieb eines Client-Computers (200) in Netzwerkverbindung mit dem Computergerät benutzergesteuert wird und der Druck des elektronischen Dokuments auf einem mit dem Computergerät verbundenen Drucker (204) erfolgt, wobei das Computergerät aufweist:
 eine Speichereinrichtung zum Speichern eines computerisierten Druckvorbereitungs-Softwaresystems (208, 218) in dem Computergerät, wobei das Softwaresystem ein herunterladbares Dokumententwicklungsprogramm (208) mit einem oder mehreren Entwicklungswerkzeugen zum Entwickeln des elektronischen Dokuments und eine Druckvorbereitungs-Übersetzungskomponente (218) zum Erzeugen einer Datei (220) in einem Druckvorbereitungsformat aus dem von dem Entwicklungswerkzeug entwickelten elektronischen Dokument aufweist,
 eine Einrichtung zum Ausgeben des Entwicklungsprogramms über die Netzwerkverbindung zum Herunterladen auf den Client-Computer, eine Einrichtung zum Empfangen des entwickelten elektronischen Dokuments über die
- Netzwerkverbindung unter Verwendung des Entwicklungsprogramms, eine Sicherungseinrichtung zum Sichern (306) des elektronischen Dokuments in einem internen Format des Computergeräts, und wobei die Übersetzungskomponente zur Übersetzung des elektronischen Dokuments aus dem internen Format in eine Datei eines unterschiedlichen Druckvorbereitungsformats betreibbar ist, das zur Erzeugung eines entsprechenden gedruckten Dokuments auf dem Drucker verwendbar ist,
- wobei das von dem Computergerät zur Verfügung gestellte Entwicklungsprogramm zur Ausführung mittels eines Browsers in dem Client-Computer ausgelegt ist, um eine Anzeige zu erzeugen, die das elektronische Dokument in einer Form wiedergibt, in der es in dem gedruckten Dokument erscheinen soll, und wobei mindestens eines der Entwicklungswerkzeuge eine oder mehrere Funktionen aufweist, die es einem Benutzer gestatten, mindestens ein Element des elektronischen Dokuments auszuwählen und zu editieren, während gleichzeitig mindestens ein Teil des elektronischen Dokuments angezeigt wird.
20. Computergerät nach Anspruch 19, wobei die Sicherungseinrichtung so betätigbar ist, daß sie das elektronische Dokument in dem Computergerät in einer Form sichert, in der die auf dem Computergerät ablaufende Übersetzungskomponente die Datei in dem Druckvorbereitungsformat so erzeugen kann, daß bei Benutzung der Datei in dem Druckvorbereitungsformat zur Erzeugung des gedruckten Dokuments dieses mit der Form übereinstimmt, in der es auf dem Client-Computer für den Benutzer angezeigt wird.
21. Client-Computer (200) zur Erzeugung eines elektronischen Dokuments (214) zur Übersetzung auf einem Computergerät (202) in eine Datei mit einem Druckvorbereitungsformat, wobei der Client-Computer aufweist:
 eine Empfangseinrichtung zum Empfangen eines heruntergeladenen Entwicklungsprogramms (208) von dem Computergerät, eine Editiereinrichtung zum Editieren eines Elements des elektronischen Dokuments entsprechend der Verwendung mindestens eines Entwicklungswerkzeugs des heruntergeladenen Programms durch den Benutzer, eine Sendeeinrichtung zum Senden des elektronischen Dokuments an das Computergerät über eine Netzwerkverbindung (206), und ein Betriebsumgebungsprogramm (212) zum Ausführen des von dem Computergerät zur

- Verfügung gestellten Entwicklungsprogramms zur Erzeugung einer Anzeige, die das elektronische Dokument in einer Form wiedergibt, in der es in dem gedruckten Dokument erscheinen soll; wobei mindestens eines der Entwicklungswerzeuge eine oder mehrere Funktionen aufweist, die es dem Benutzer gestatten, mindestens ein Element des elektronischen Dokuments auszuwählen und zu editieren, während gleichzeitig mindestens ein Teil des elektronischen Dokuments angezeigt wird.
22. Client-Computer nach Anspruch 21, wobei das Entwicklungsprogramm ein Textwerkzeug zur Erzeugung eines Textteils des elektronischen Dokuments aufweist, und wobei der Client-Computer eine Einrichtung zum Senden von gewünschtem Text an das Computergerät zum Übersetzen des Textes in ein Bild sowie eine Einrichtung zum Empfangen des Bildes von dem Computergerät aufweist.
23. Client-Computer nach Anspruch 21 oder 22 mit einem Prozessor (110), einem computerlesbaren Medium und einem Verbindungsgerät, wobei das Betriebsumgebungsprogramm einen Webbrowsert aufweist, und wobei das Entwicklungsprogramm über das Verbindungsgerät von dem Computergerät (202) heruntergeladen und von dem Medium innerhalb des Betriebsumgebungsprogramms mittels des Prozessors ausgeführt wird.
24. Client-Computer nach Anspruch 23, wobei das computerlesbare Medium ein Speicher oder ein nicht-flüchtiges Speichermedium ist.
25. Client-Computer nach Anspruch 23, wobei das Verbindungsgerät ein Modem oder eine Netzwerkkarte ist.
26. Client-Computer nach Anspruch 23, wobei das Betriebsumgebungsprogramm ein Internet-World-Wide-Web-Browserprogramm ist.
27. Client-Computer nach Anspruch 23, wobei das Betriebsumgebungsprogramm ein Intranet-World-Wide-Web-Browserprogramm ist.
28. Client-Computer nach Anspruch 23, wobei das Betriebsumgebungsprogramm ein Extranet-World-Wide-Web-Browserprogramm ist.
29. Computerisiertes Druckvorbereitungssystem mit dem Computergerät nach Anspruch 19 und dem Client-Computer nach Anspruch 21 sowie einem mit dem Computergerät verbundenen Drucker (204).
- 5 30. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät, der Client-Computer und der Drucker über das Internet (206) kommunikativ gekoppelt sind.
- 10 31. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät, der Client-Computer und der Drucker über ein Intranet (206) kommunikativ gekoppelt sind.
- 15 32. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät, der Client-Computer und der Drucker über ein Extranet (206) kommunikativ gekoppelt sind.
- 20 33. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät einen Internet-World-Wide-Web-Server aufweist.
- 25 34. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät einen Intranet-World-Wide-Web-Server aufweist.
- 30 35. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Computergerät einen Extranet-World-Wide-Web-Server aufweist.
- 35 36. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Entwicklungsprogramm auf dem Client-Computer in einem Internet-World-Wide-Web-Browserprogramm läuft.
- 40 37. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Browserprogramm ein Netscape-Navigator oder Microsoft Internet Explorer ist.
- 45 38. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Entwicklungsprogramm auf dem Client-Computer in einem Intranet-World-Wide-Web-Browserprogramm läuft.
- 50 39. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Entwicklungsprogramm auf dem Client-Computer in einem Extranet-World-Wide-Web-Browserprogramm läuft.
- 55 40. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das Entwicklungsprogramm in einer der Sprachen Perl, Java, C++, C und AktiveX codiert ist.
41. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei das elektronische Dokument eine Visitenkarte, ein Briefkopf, ein Umschlag oder eine Broschüre ist.
42. Computerisiertes Druckvorbereitungssystem nach

Anspruch 29, wobei das Entwicklungsprogramm einen Farbpalettenbereich zur Auswahl einer Farbe aus einer Farbpalette aufweist.		positif informatique comprenant :
43. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei die Datei in dem Druckvorbereitungsformat aus der Gruppe PostScript, HTML, PDF und PostScript Extreme ausgewählt ist.	5	la sortie (302) du programme de création par l'intermédiaire du réseau de communication en vue de télécharger le programme de création sur l'ordinateur client ;
44. Computerisiertes Druckvorbereitungssystem nach Anspruch 29, wobei der Drucker das Dokument von dem Computergerät über eine E-Mail empfängt, der das Dokument als Anlage beigefügt ist.	10	la réception (306) par l'intermédiaire du réseau de communication du document électronique créé en utilisant le programme de création ; la sauvegarde (306) du document électronique sous un format interne du dispositif informatique ; et
45. Computerlesbares Medium mit einem darin gespeicherten Computerprogramm zum Programmieren eines Computers zur Ausführung sämtlicher Schritte des Verfahrens nach einem der Ansprüche 1 bis 18.	15	la traduction (308) du document électronique, en utilisant le composant de traduction, du format interne vers un fichier écrit dans un format de pré-impression différent, format de pré-impression utilisable pour produire un document imprimé correspondant sur l'imprimante ;
46. Entwicklungsprogramm (208) zur Verwendung in einem Verfahren nach einem der Ansprüche 1 bis 18, wobei das Entwicklungsprogramm zur Ausführung mittels eines Browsers auf einem Client-Computer ausgelegt ist, um eine Anzeige zu erzeugen, die das elektronische Dokument in einer Form wieder gibt, in der es in dem gedruckten Dokument erscheinen soll, sowie mindestens eines Entwicklungswerkzeugs mit einer oder mehreren Funktionen, die es einem Benutzer gestatten, mindestens ein Element des elektronischen Dokuments auszuwählen und zu editieren, während gleichzeitig mindestens ein Teil des elektronischen Dokuments angezeigt wird.	20	dans lequel le programme de création fourni par le dispositif informatique est configuré pour être exécuté par un navigateur sur l'ordinateur client de manière à fournir une sortie d'écran représentant le document électronique sous la forme sous laquelle il apparaîtra dans le document imprimé, et au moins un des outils de création possède une ou plusieurs fonctions pour autoriser un utilisateur à choisir et à éditer au moins un élément du document électronique tandis qu'au moins une partie du document électronique est affichée simultanément.
	25	
	30	
	35	
	40	2. Procédé selon la revendication 1, dans lequel l'étape de sauvegarde sauvegarde le document électronique sous une forme autorisant le composant de traduction à créer le fichier au format de pré-impression de telle manière que, quand le fichier au format de pré-impression est utilisé pour produire le document imprimé, le document imprimé soit cohérent avec la forme sous laquelle le document électronique est affiché à l'utilisateur sur l'ordinateur client.
	45	3. Procédé selon la revendication 1, dans lequel l'ordinateur client et le dispositif informatique sont reliés l'un à l'autre du point de vue de la communication par l'intermédiaire de l'Internet.
	50	4. Procédé selon la revendication 1, dans lequel l'ordinateur client et le dispositif informatique sont reliés l'un à l'autre du point de vue de la communication par l'intermédiaire d'un intranet.
	55	5. Procédé selon la revendication 1, dans lequel l'ordinateur client et le dispositif informatique sont reliés l'un à l'autre du point de vue de la communication par l'intermédiaire d'un extranet.
		6. Procédé selon la revendication 1, comprenant l'étape supplémentaire d'authentification de l'utilisateur

Revendications

1. Procédé de mise en oeuvre d'un dispositif informatique (202) dans un système pour faciliter la création d'un document électronique (214) devant être sorti comme document imprimé, dans lequel la création du document électronique est commandée par l'utilisateur par l'utilisation d'un ordinateur client (200) en communication réseau avec le dispositif informatique et l'impression du document électronique est faite au moyen d'une imprimante (204) en communication avec le dispositif informatique, ledit dispositif informatique stockant un système logiciel de pré-impression informatisée (208, 218) qui comprend un programme de création de documents téléchargeable (208) comprenant un ou plusieurs outils de création pour créer le document électronique et un composant de traduction de pré-impression (218) utilisable pour produire un fichier au format de pré-impression (220) à partir du document électronique créé par le programme de création ; les étapes de procédure réalisées par le dis-

- au niveau du dispositif informatique en associant l'utilisateur à au moins l'un d'un répertoire particulier sur le dispositif informatique, un ensemble de fonctions, de couleurs, d'images et de commandes par défaut correspondantes, accessibles à l'utilisateur et un niveau d'autorisation choisi à partir du groupe de niveaux d'autorisation comprenant normal, administrateur, et démonstration.
7. Procédé selon la revendication 1, dans lequel le programme de création est codé dans un langage choisi à partir d'un groupe comprenant Perl, Java, C++, C, et ActiveX.
8. Procédé selon la revendication 1, dans lequel le document est choisi à partir d'un groupe comprenant une carte professionnelle, un en-tête de lettre, une enveloppe, et une brochure.
9. Procédé selon la revendication 1, dans lequel le programme de création comprend une zone de palette de couleurs pour choisir une couleur à partir d'une palette de couleurs.
10. Procédé selon la revendication 9, dans lequel la palette de couleurs comprend une palette de couleurs disponible à partir de l'une choisie à partir d'un groupe comprenant Pantone, Toyo, Focaltone, Tru-Match.
11. Procédé selon la revendication 1, dans lequel le programme de création comprend un outil de traitement de texte pour créer une partie texte du document électronique, le procédé comprenant la réception du texte souhaité envoyé à partir de l'ordinateur client, la traduction du texte en une image et le renvoi de l'image du dispositif informatique vers l'ordinateur client.
12. Procédé selon revendication 11, dans lequel l'image est dans un format choisi à partir d'un groupe comprenant GIF, TIFF, JPEG.
13. Procédé selon la revendication 1, dans lequel le document comprend une ou plusieurs images, au moins une des images étant dans un format choisi à partir d'un groupe comprenant Postscript encapsulé, TIFF, GIF, et JPEG.
14. Procédé selon la revendication 1, dans lequel le format différent est choisi à partir d'un groupe comprenant Postscript, HTML, PDF, et Postscript Extreme.
15. Procédé selon la revendication 1, comprenant l'envoi du document dans le fichier au format de pré-impression vers un emplacement situé à distance du dispositif informatique en vue d'une impression par une imprimante située à cet emplacement dis-
- tant.
16. Procédé selon la revendication 14, comprenant la génération d'un courrier électronique en vue de la soumission à l'imprimante, comprenant un fichier attaché composé du fichier au format de pré-impression, dans lequel le courrier électronique est conforme au standard MIME.
17. Procédé de mise en oeuvre d'un ordinateur client (200) pour créer un document électronique (214) en vue d'une traduction au niveau d'un dispositif informatique (202) en un fichier au format de pré-impression (220) conformément à un procédé selon l'une quelconque des revendications précédentes, les étapes de procédure réalisées par l'ordinateur client comprenant :
- la réception d'un programme de création (208) téléchargé à partir du dispositif informatique ; en réponse à l'utilisation par l'utilisateur d'au moins un outil de création du programme téléchargé, l'édition d'un élément du document électronique ; et
 - l'envoi du document électronique au dispositif informatique par l'intermédiaire de la communication réseau ;
- dans lequel le programme de création fourni par le dispositif informatique est exécuté par un navigateur dans l'ordinateur client de manière à fournir une sortie écran représentant le document électronique sous une forme sous laquelle il apparaîtra dans le document imprimé, et au moins un des outils de création possède une ou plusieurs fonctions pour autoriser l'utilisateur à choisir et à éditer au moins un élément du document électronique tandis qu'au moins une partie du document électronique est simultanément affichée.
18. Procédé selon la revendication 17, dans lequel le programme de création comprend un outil de traitement de texte pour créer une partie texte du document électronique, le procédé comprenant l'envoi du texte souhaité vers le dispositif informatique en vue d'une traduction du texte en une image et la réception de l'image à partir du dispositif informatique.
19. Dispositif informatique (202) pour une utilisation dans un système pour faciliter la création d'un document électronique (214) devant être sorti sous la forme d'un document imprimé, dans lequel la création du document électronique est commandée par l'utilisateur au moyen d'un ordinateur client (200) en communication réseau avec le dispositif informatique et l'impression du document électronique est réalisée par une imprimante (204) en communica-

- tion avec le dispositif informatique, le dispositif informatique comprenant :
- un moyen de stockage stockant sur le dispositif informatique un système logiciel de pré-impression informatisée (208, 218) qui comprend un programme de création de documents téléchargeable (208) comprenant un ou plusieurs outils de création pour créer le document électronique et un composant de traduction de pré-impression (218) utilisable pour produire un fichier au format de pré-impression (220) à partir du document électronique créé par le programme de création ;
- un moyen pour sortir le programme de création par l'intermédiaire de la communication réseau pour télécharger le programme de création sur l'ordinateur client ;
- un moyen pour recevoir par l'intermédiaire de la communication réseau le document électronique créé en utilisant le programme de création ;
- un moyen de sauvegarde pour sauvegarder (306) le document électronique sous un format interne du dispositif informatique ; et dans lequel le composant de traduction est utilisable pour traduire le document électronique du format interne vers un fichier dans un format de pré-impression différent, qui est utilisable pour produire un document imprimé correspondant sur l'imprimante ;
- dans lequel le programme de création fourni par le dispositif informatique est configuré pour être exécuté par un navigateur dans l'ordinateur client de manière à fournir une sortie d'écran représentant le document électronique sous une forme sous laquelle il doit apparaître dans le document imprimé, et au moins un des outils de création possède une ou plusieurs fonctions pour autoriser un utilisateur à choisir et à éditer au moins un élément du document électronique tandis qu'au moins une partie du document électronique est simultanément affichée.
- 20.** Dispositif informatique selon la revendication 19, dans lequel le moyen de sauvegarde est utilisable pour sauvegarder le document électronique sur le dispositif informatique sous une forme autorisant le composant de traduction s'exécutant sur le dispositif informatique à créer le fichier au format de pré-impression de telle manière que, quand le fichier au format de pré-impression est utilisé pour produire le document imprimé, le document imprimé soit cohérent avec la forme sous laquelle le document électronique est affiché à l'utilisateur sur l'ordinateur client.
- 21.** Ordinateur client (200) pour créer un document
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- électronique (214) en vue d'une traduction au niveau d'un dispositif informatique (202) en un fichier au format de pré-impression, l'ordinateur client comprenant :
- un moyen de réception pour recevoir un programme de création téléchargé (208) à partir du dispositif informatique ;
- un moyen d'édition réagissant à l'utilisation par l'utilisateur d'au moins un outil de création du programme téléchargé pour éditer un élément du document électronique ;
- un moyen d'envoi pour envoyer le document électronique vers le dispositif informatique par l'intermédiaire d'une communication réseau (206) ; et
- un programme d'environnement d'exploitation (212) pour exécuter le programme de création fourni par le dispositif informatique de manière à fournir une sortie écran représentant le document électronique sous une forme sous laquelle il apparaîtra dans le document imprimé, dans lequel au moins un des outils de création possède une ou plusieurs fonctions pour autoriser l'utilisateur à choisir et à éditer au moins un élément du document électronique tandis qu'au moins une partie du document électronique est simultanément affichée.
- 22.** Ordinateur client selon la revendication 21, dans lequel le programme de création comprend un outil de traitement de texte pour créer une partie texte du document électronique, l'ordinateur client comprenant un moyen pour envoyer le texte souhaité vers le dispositif informatique en vue de la traduction du texte en une image et un moyen pour recevoir l'image en provenance du dispositif informatique.
- 23.** Ordinateur client selon l'une quelconque des revendications 21 et 22, l'ordinateur client comprenant :
- un processeur (110) ;
- un support lisible par ordinateur ; et
- un dispositif de communication ;
- dans lequel le programme d'environnement d'exploitation comprend un navigateur Web ;
- le programme de création étant téléchargé à partir du dispositif informatique (202) par l'intermédiaire du dispositif de communication et exécuté par le processeur à partir du support à l'intérieur du programme d'environnement d'exploitation.
- 24.** Ordinateur client selon la revendication 23, dans lequel le support lisible par ordinateur est choisi à partir d'un groupe comprenant de la mémoire et un support de stockage non volatil.

25. Ordinateur client selon la revendication 23, dans lequel le dispositif de communication est choisi à partir d'un groupe comprenant un modem et une carte réseau.
26. Ordinateur client selon la revendication 23, dans lequel le programme d'environnement d'exploitation comprend un programme de navigateur World Wide Web Internet.
27. Ordinateur client selon la revendication 23, dans lequel le programme d'environnement d'exploitation comprend un programme de navigateur World Wide Web intranet.
28. Ordinateur client selon la revendication 23, dans lequel le programme d'environnement d'exploitation comprend un programme de navigateur World Wide Web extranet.
29. Système de pré-impression informatisée comprenant le dispositif informatique selon la revendication 19 et l'ordinateur client selon la revendication 21, et une imprimante (204) communiquant avec ledit dispositif informatique.
30. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique, l'ordinateur client et l'imprimante sont reliés les uns aux autres du point de vue de la communication par l'intermédiaire de l'Internet (206).
31. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique, l'ordinateur client et l'imprimante sont reliés les uns aux autres du point de vue de la communication par l'intermédiaire d'un intranet.
32. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique, l'ordinateur client et l'imprimante sont reliés les uns aux autres du point de vue de la communication par l'intermédiaire d'un extranet.
33. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique comprend un serveur World Wide Web Internet.
34. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique comprend un serveur World Wide Web intranet.
35. Système de pré-impression informatisée selon la revendication 29, dans lequel le dispositif informatique comprend un serveur World Wide Web extranet.
36. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de création s'exécute sur l'ordinateur client dans un programme de navigateur World Wide Web Internet.
37. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de navigateur est choisi à partir d'un groupe comprenant Netscape Navigator et Microsoft Internet Explorer.
38. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de création s'exécute sur le client dans un programme de navigateur World Wide Web intranet.
39. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de création s'exécute sur le client dans un programme de navigateur World Wide Web extranet.
40. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de création est codé dans un langage choisi à partir du groupe comprenant Perl, Java, C++, C, et ActiveX.
41. Système de pré-impression informatisée selon la revendication 29, dans lequel le document électronique est choisi à partir du groupe comprenant une carte professionnelle, une en-tête de lettre, une enveloppe et une brochure.
42. Système de pré-impression informatisée selon la revendication 29, dans lequel le programme de création comprend une zone de palette de couleurs pour choisir une couleur à partir d'une palette de couleurs.
43. Système de pré-impression informatisée selon la revendication 29, dans lequel le fichier au format de pré-impression est choisi à partir d'un groupe comprenant Postscript, HTML, PDF, et Postscript Extreme.
44. Système de pré-impression informatisée selon la revendication 29, dans lequel l'imprimante reçoit le document à partir du dispositif informatique par l'intermédiaire d'un courrier électronique dans lequel le document est inclus en tant que fichier attaché.
45. Support lisible par ordinateur possédant un programme informatique stocké dessus pour programmer un ordinateur pour exécuter toutes les étapes d'un procédé selon l'une quelconque des revendications 1 à 18.
46. Programme de création de document (208) en vue d'une utilisation dans un procédé selon l'une quel-

conque des revendications 1 à 18, le programme de création étant configuré pour être exécuté par un navigateur dans l'ordinateur client de manière à fournir une sortie d'écran représentant le document électronique sous une forme sous laquelle il apparaîtra dans le document imprimé, et au moins un outil de création possédant une ou plusieurs fonctions pour autoriser un utilisateur à choisir et à éditer au moins un élément du document électronique tandis qu'au moins une partie du document électronique est simultanément affichée.

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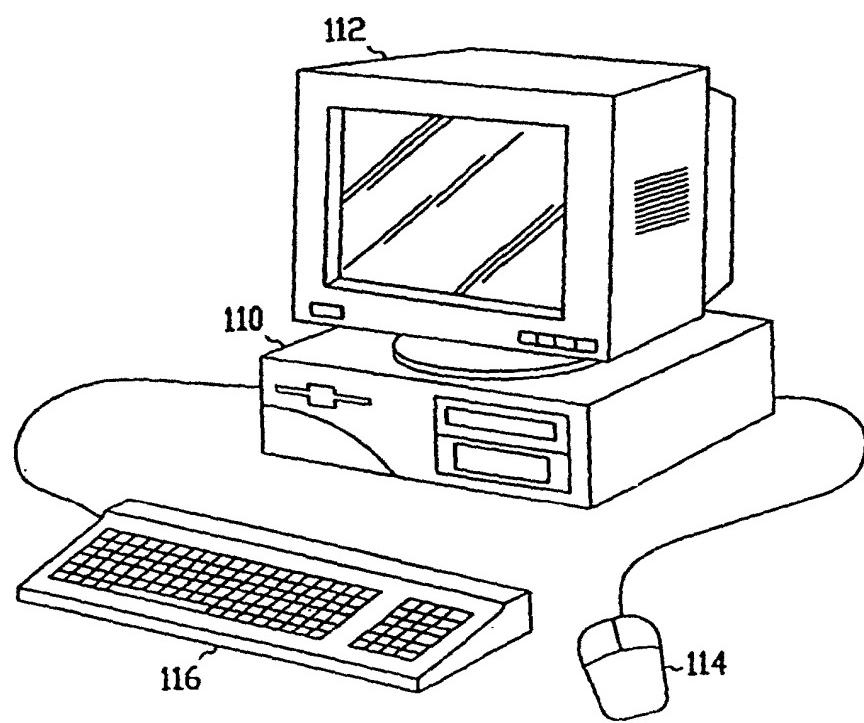


FIG. 1

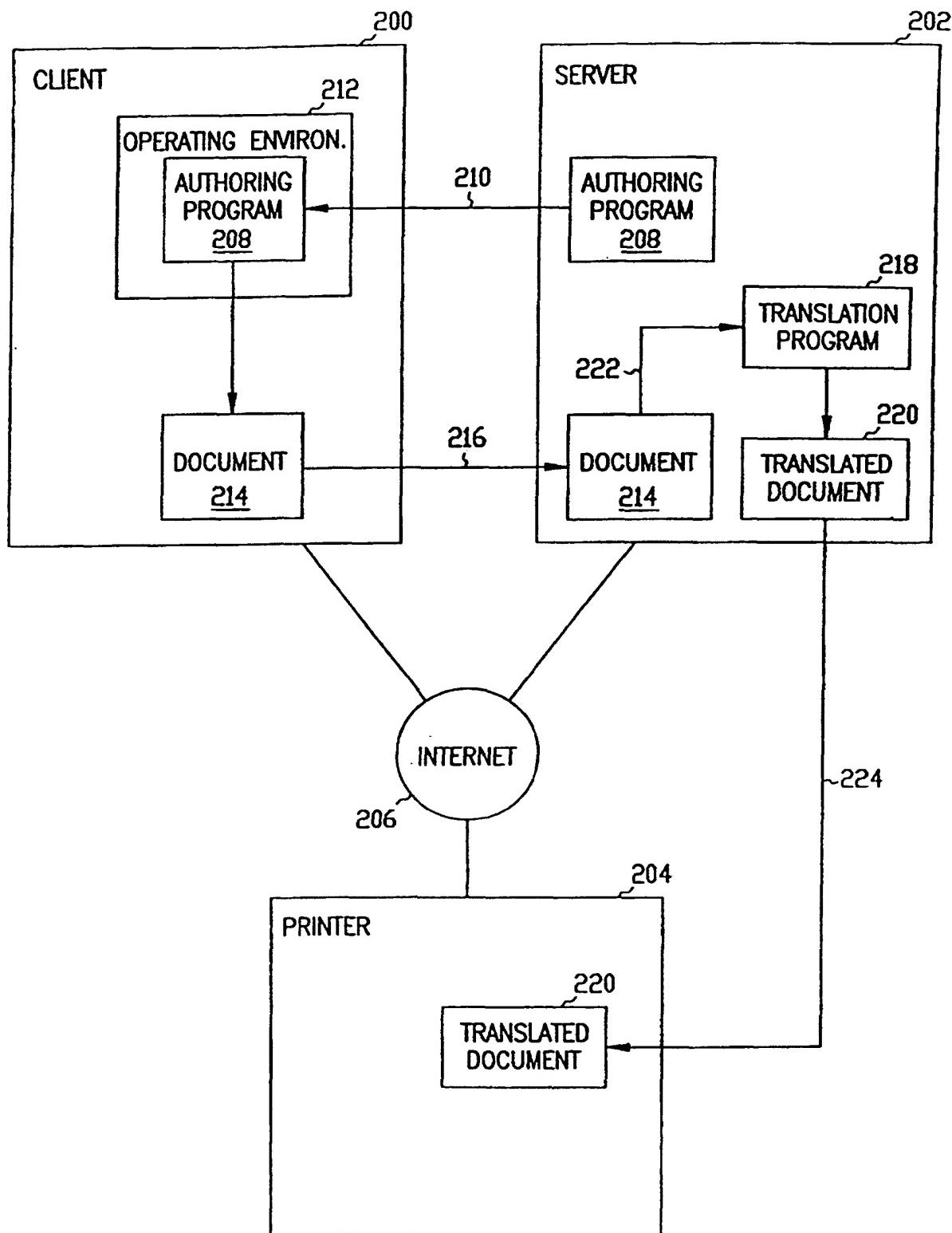


FIG. 2

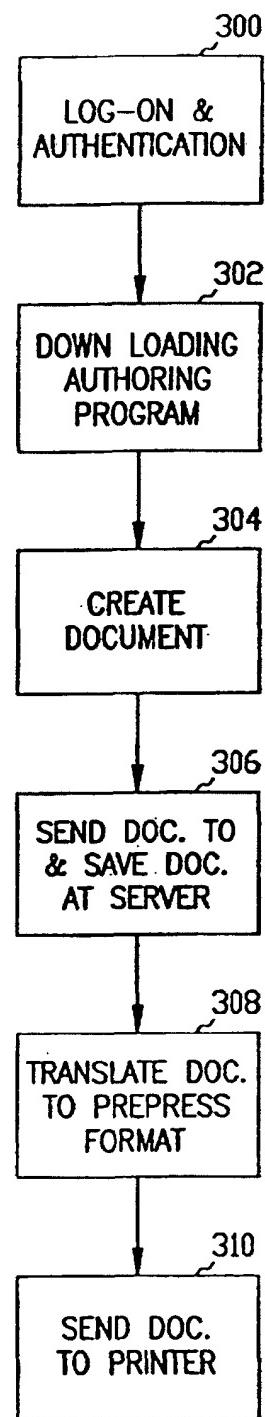


FIG. 3

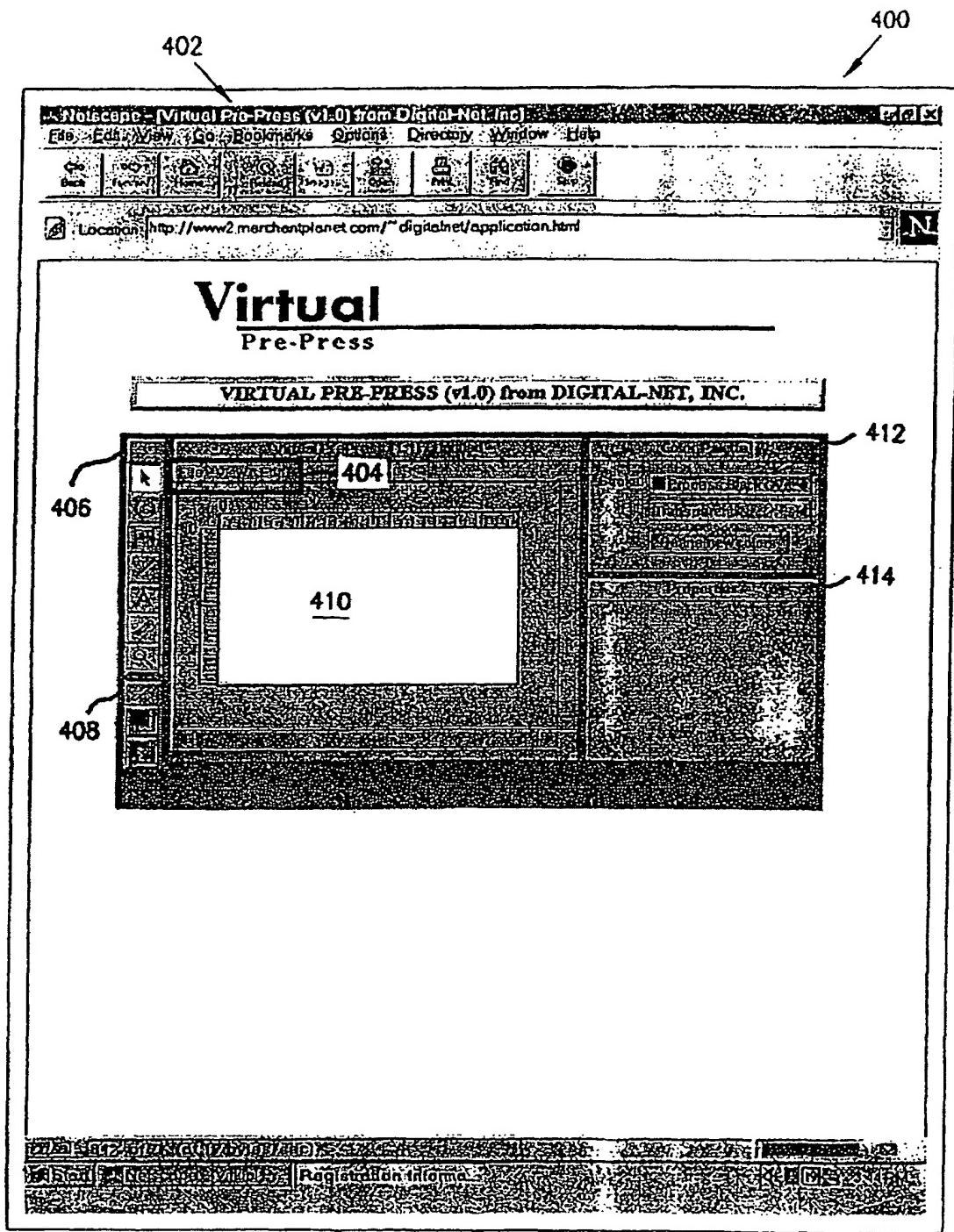


FIG. 4a

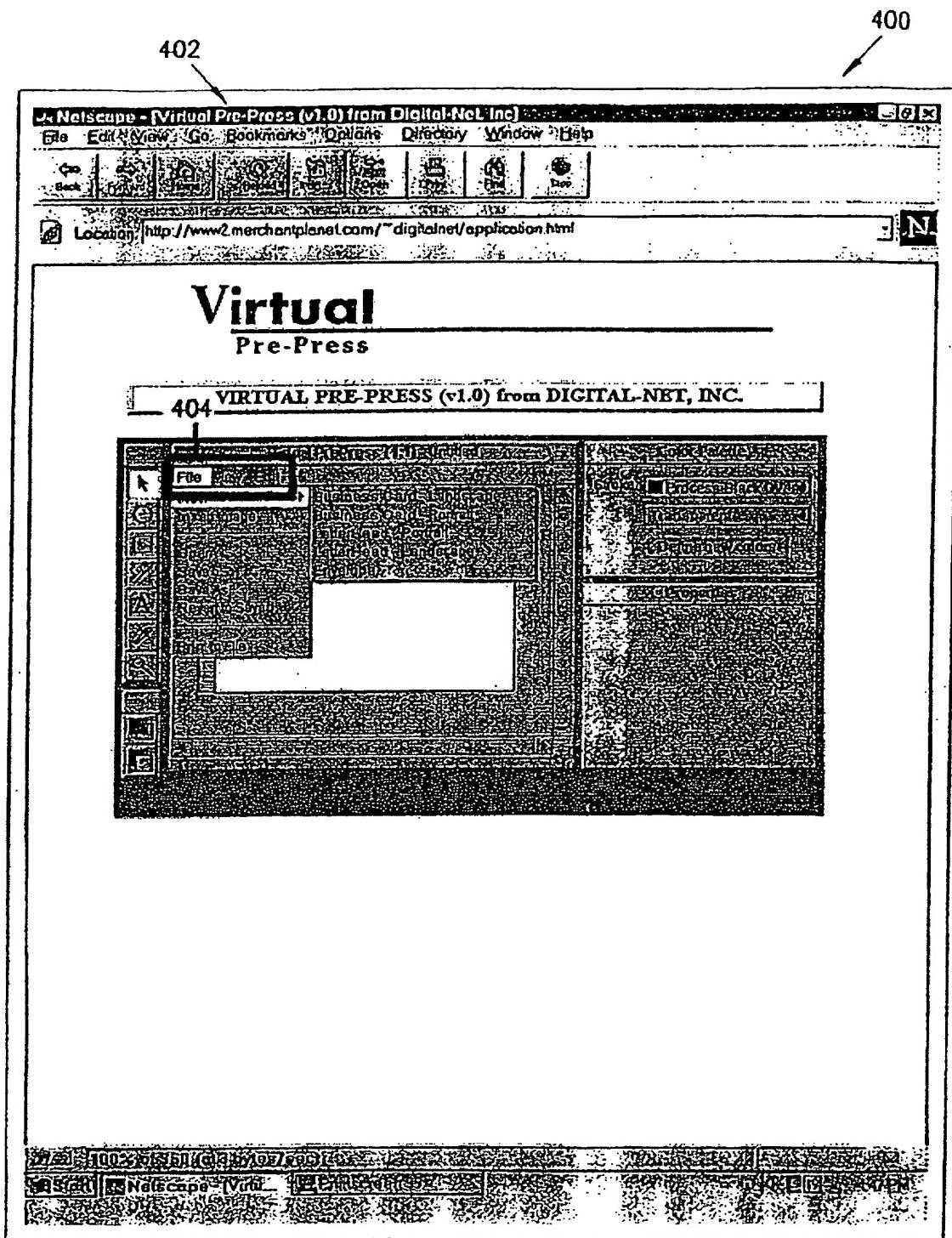


FIG. 4b

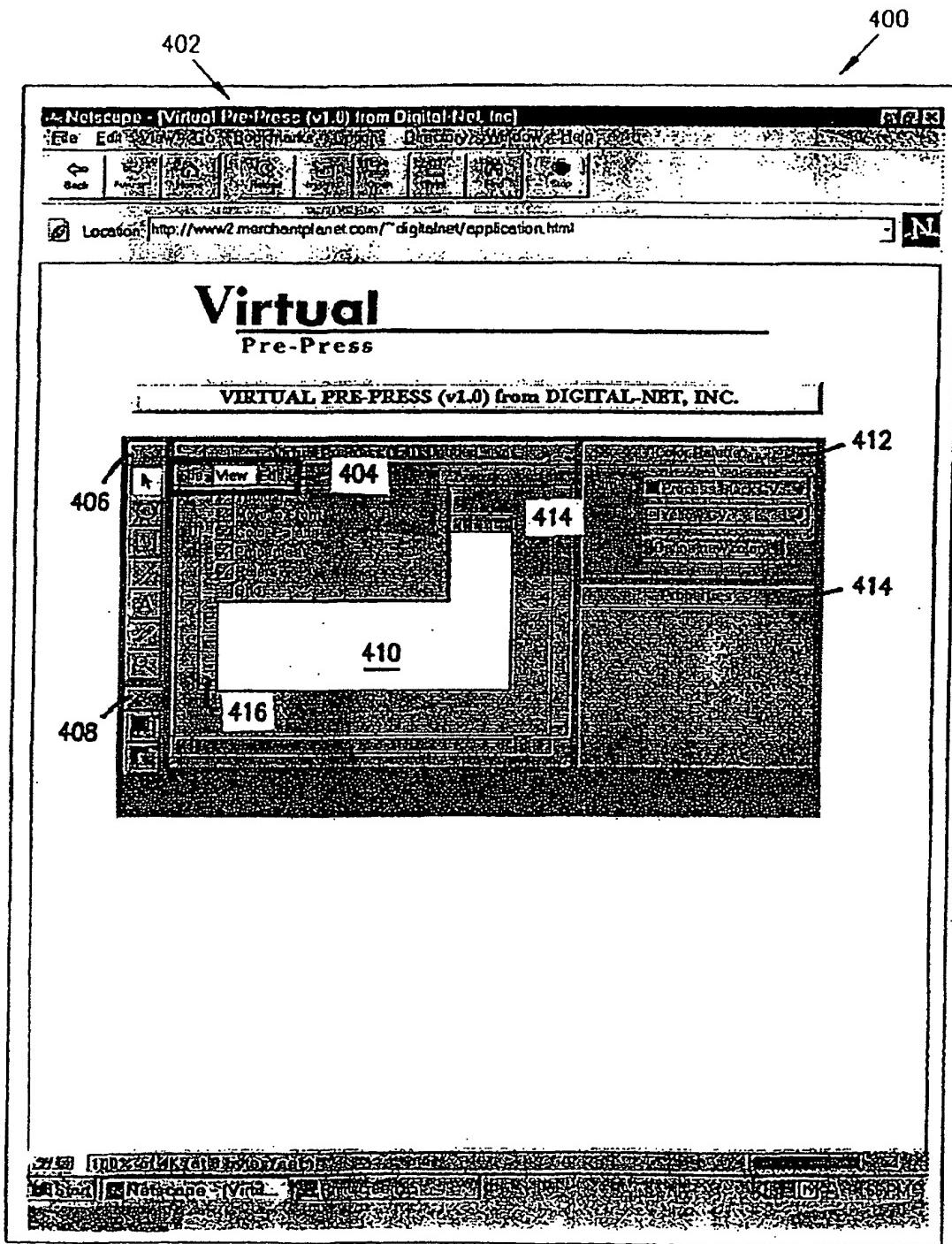


FIG. 4c

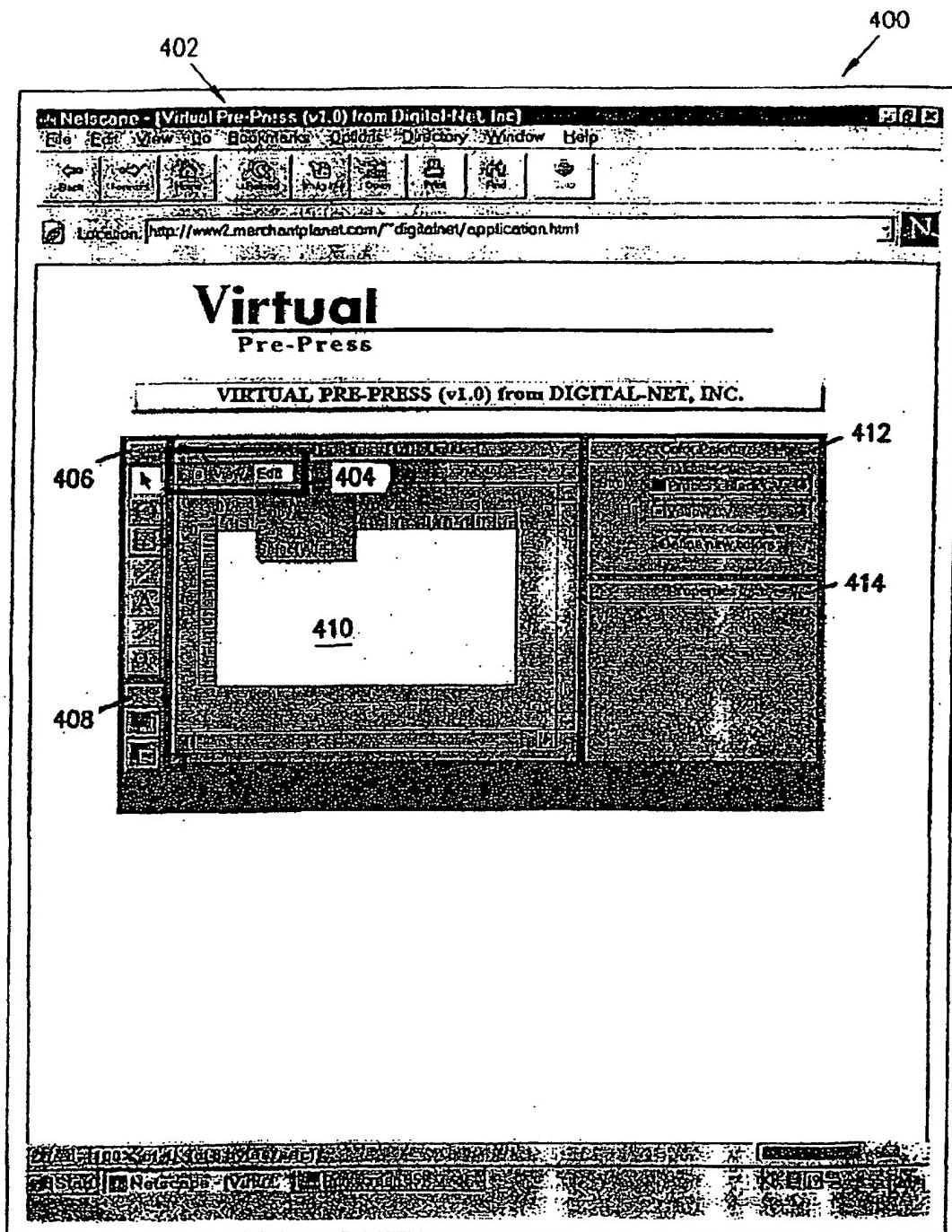


FIG. 4d

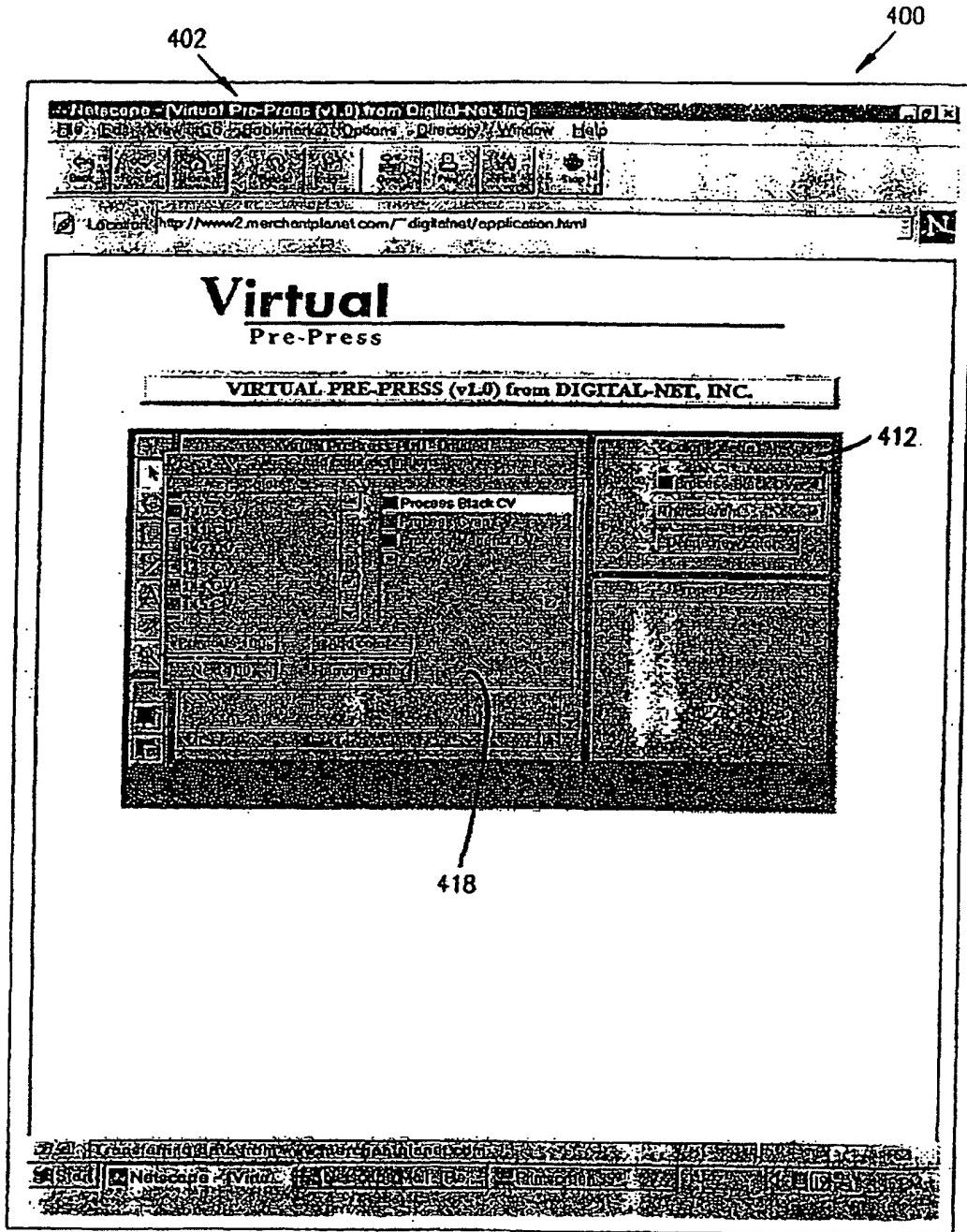


FIG. 4e

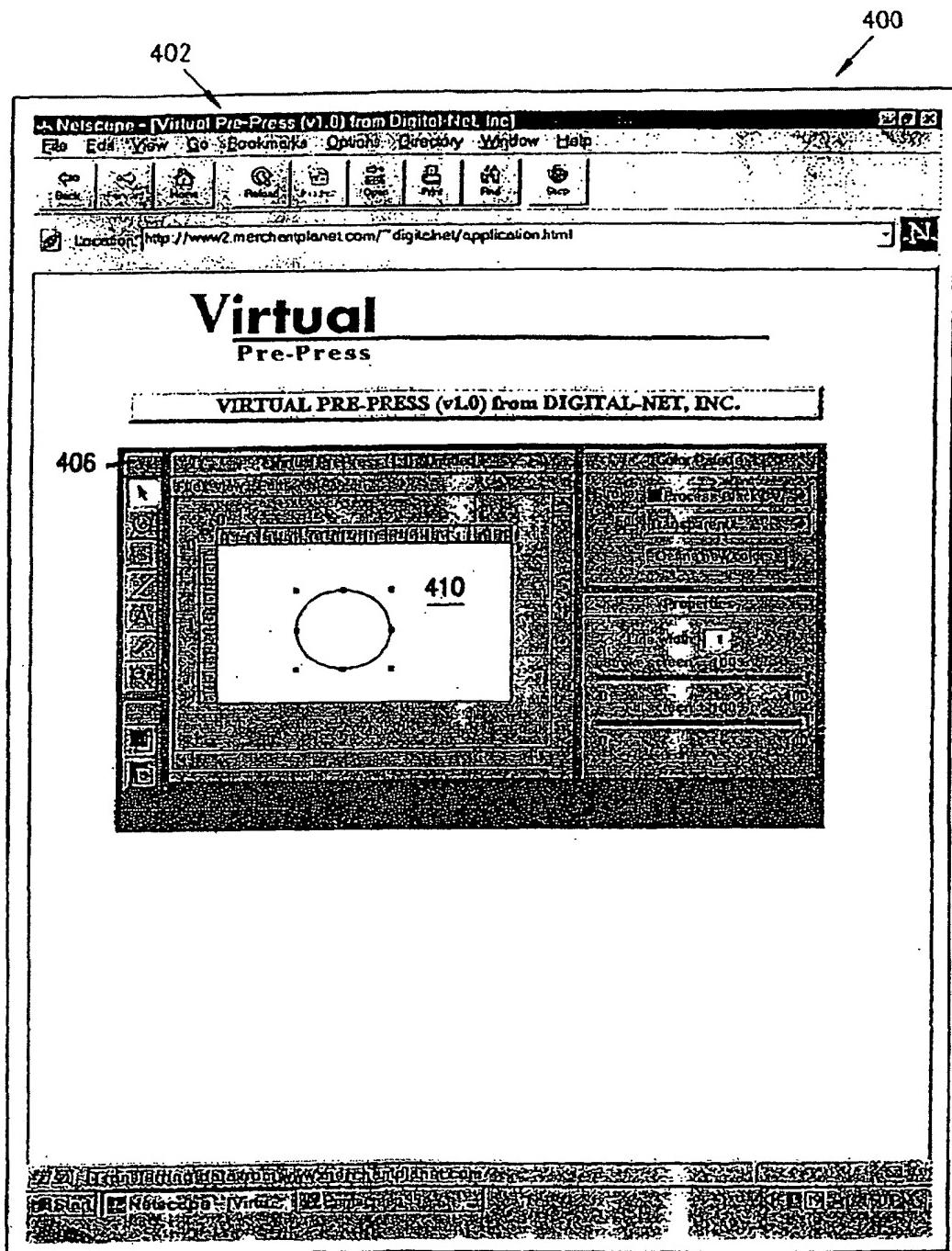


FIG. 4f

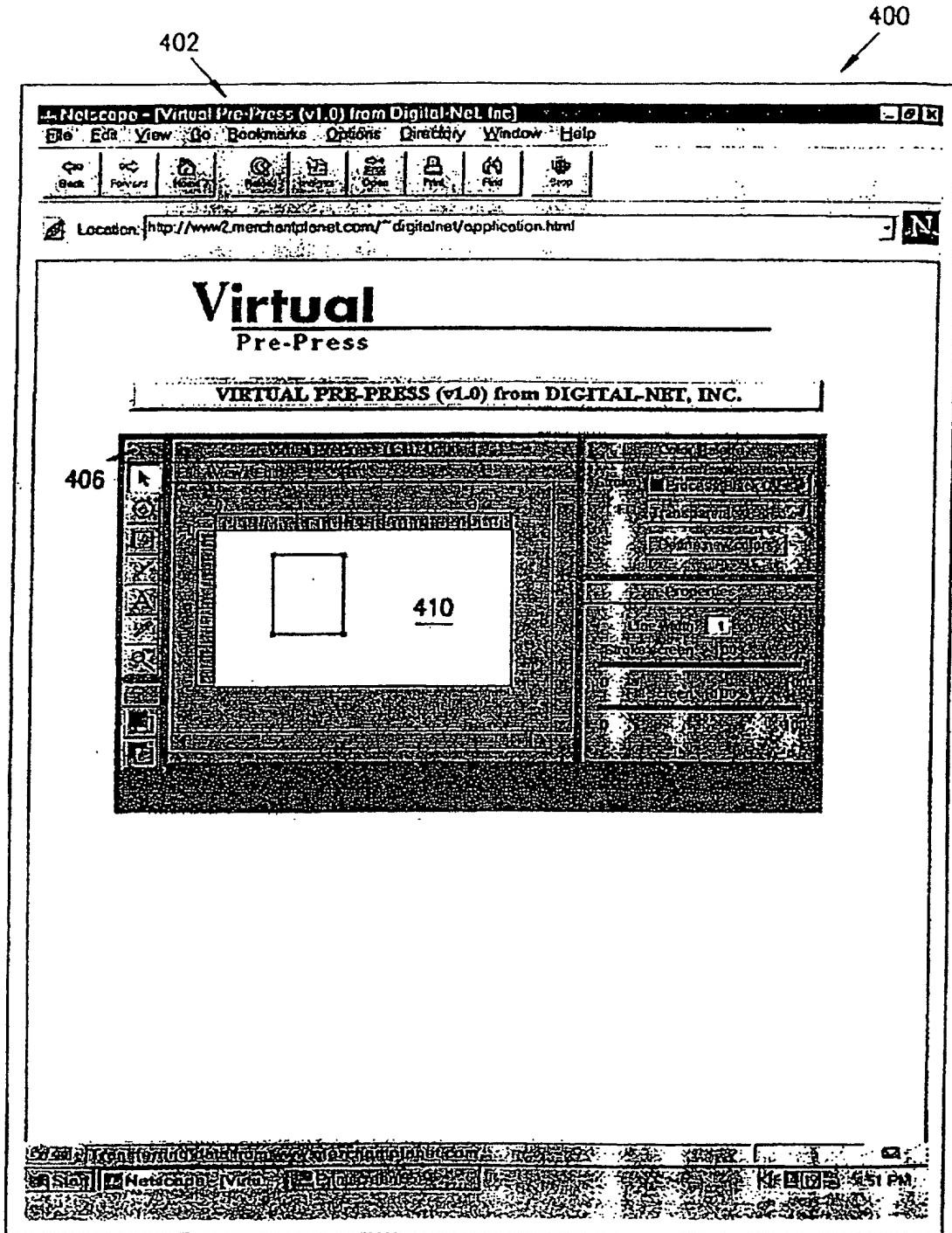


FIG. 4g

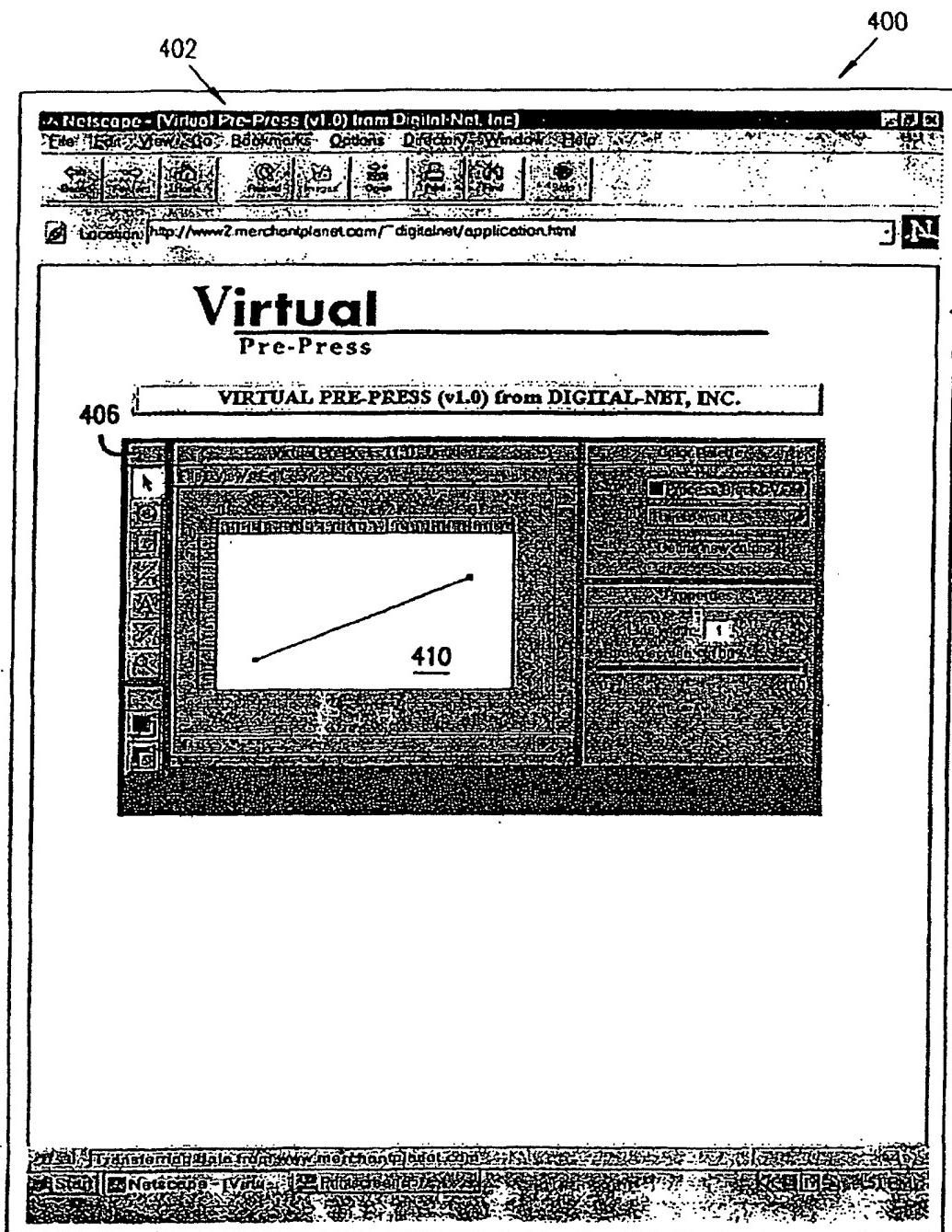


FIG. 4h

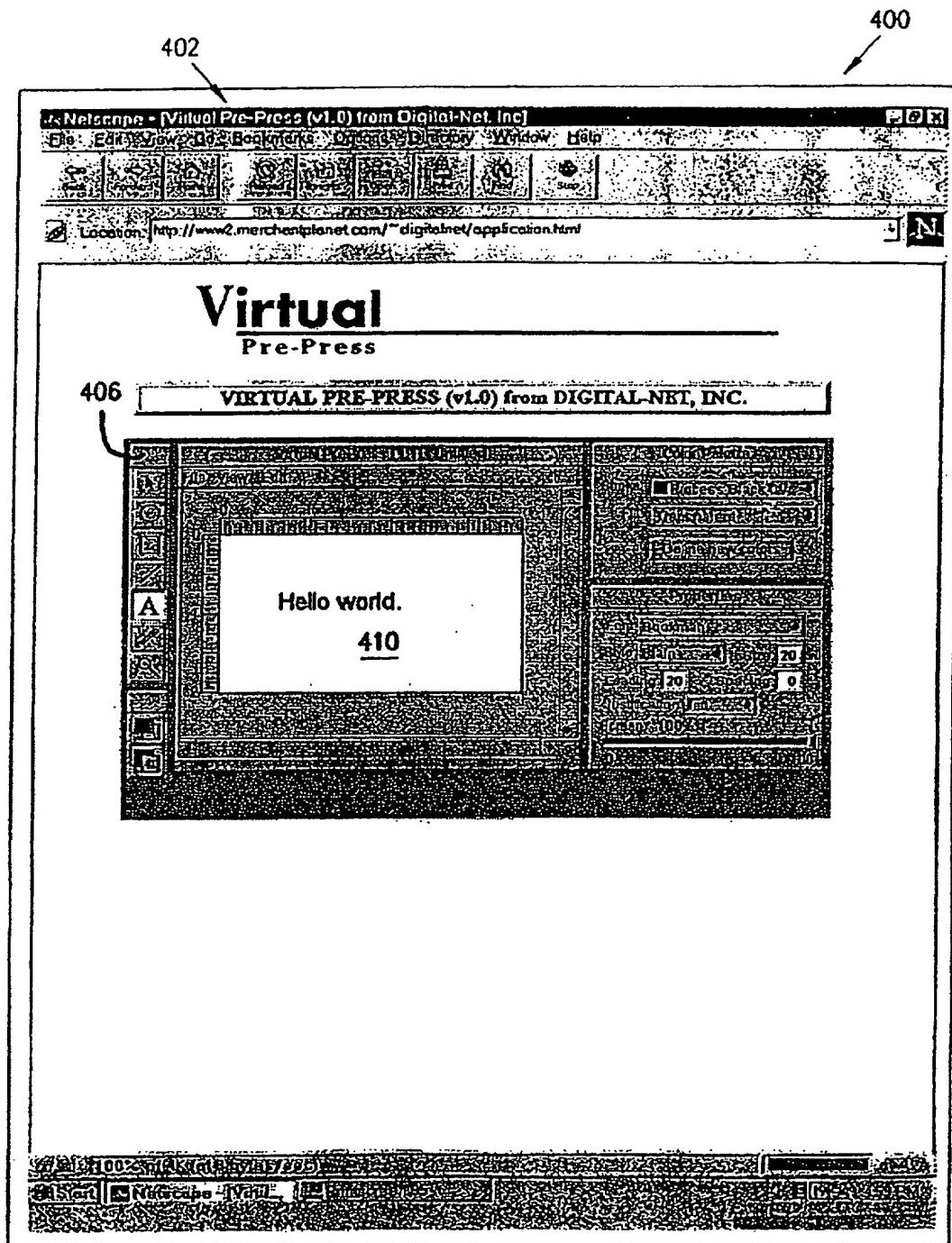


FIG. 4i

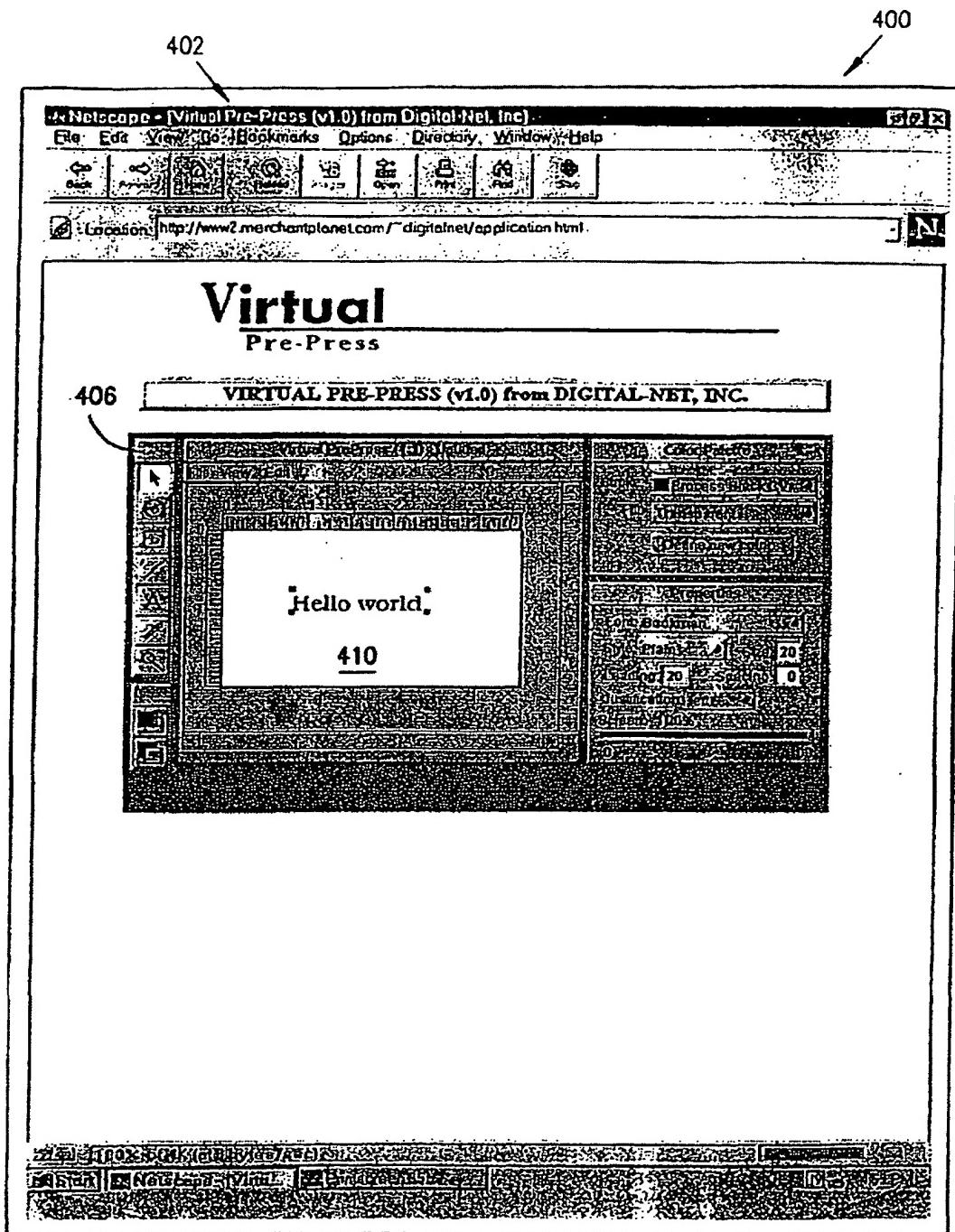


FIG. 4j

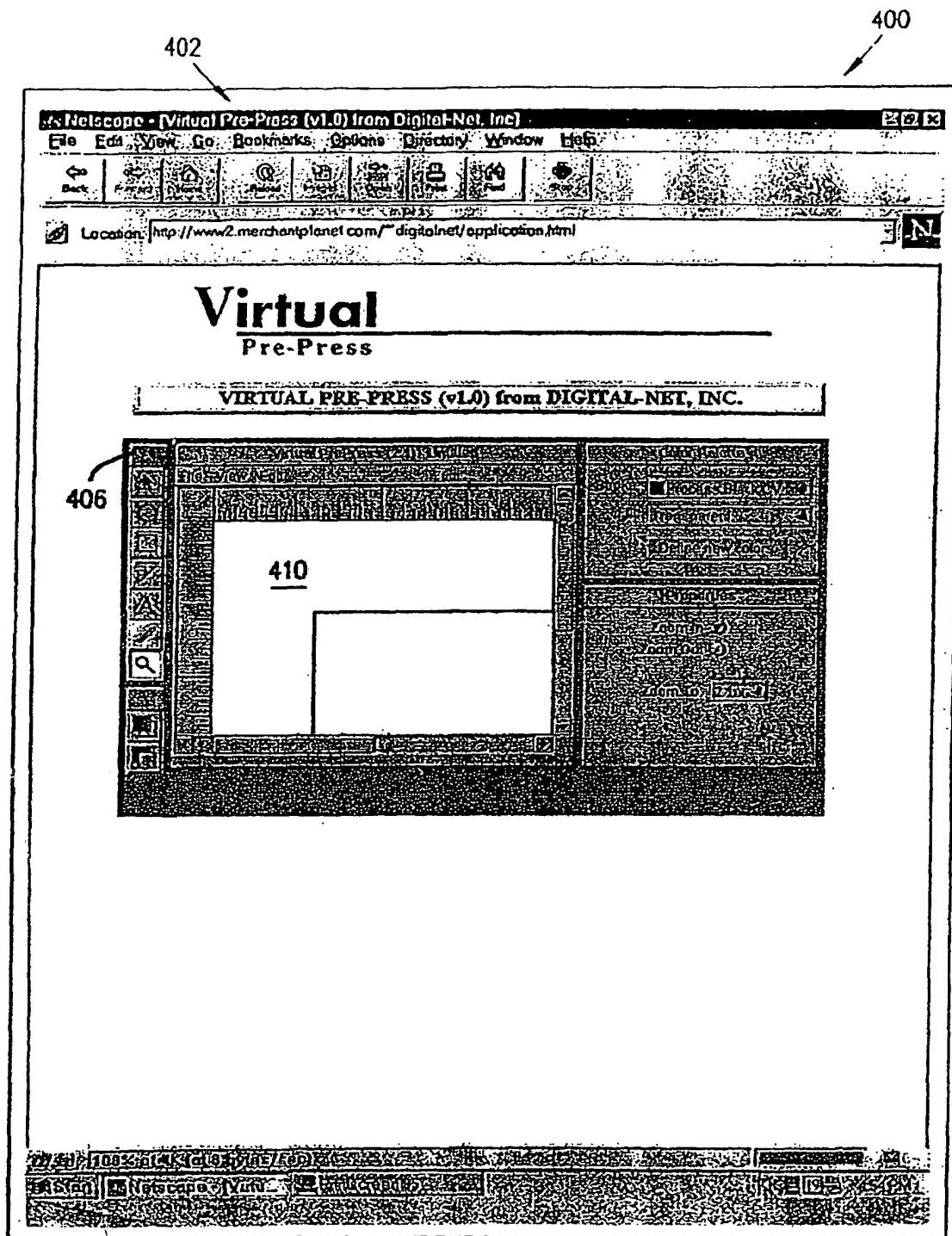


FIG. 4k

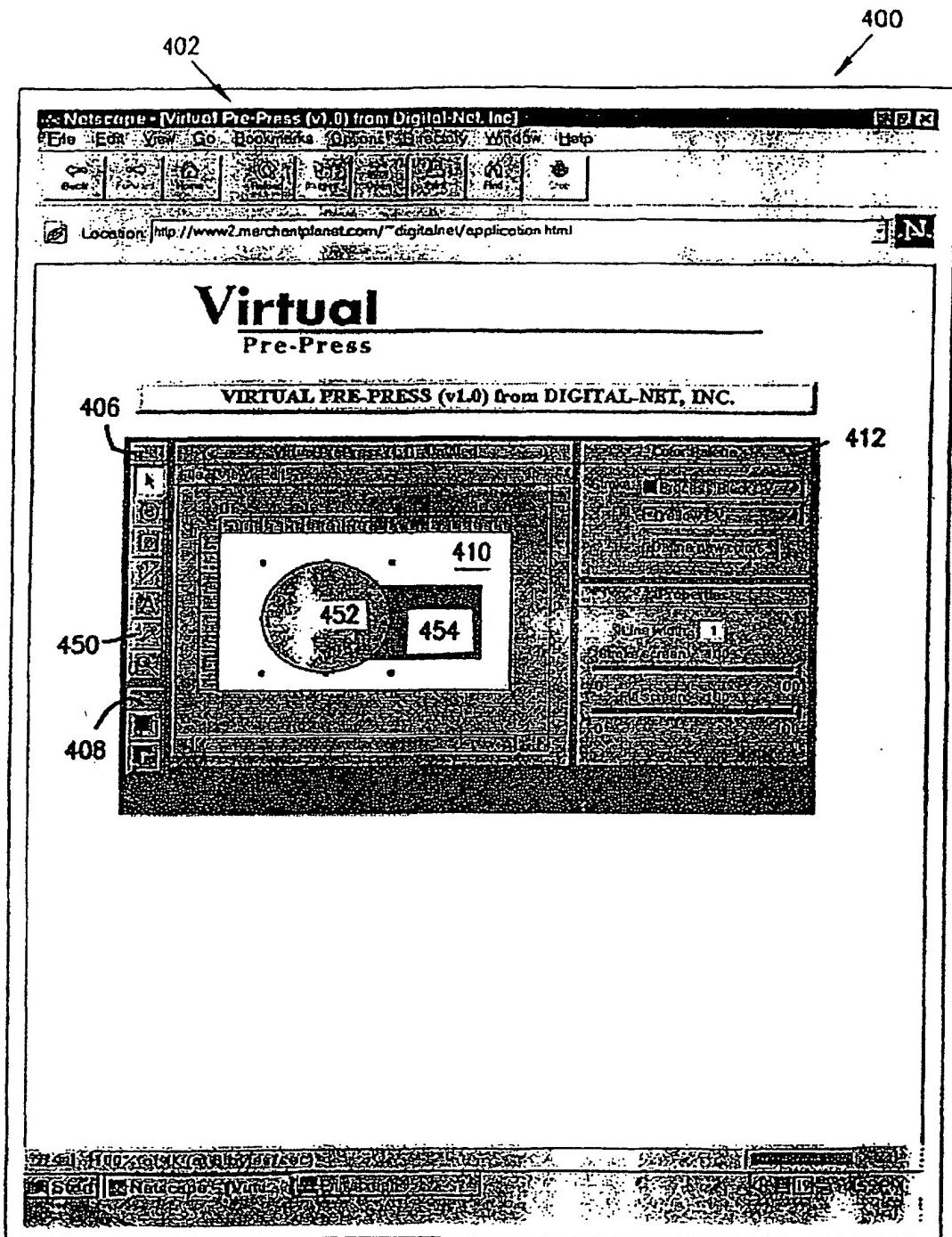


FIG. 41

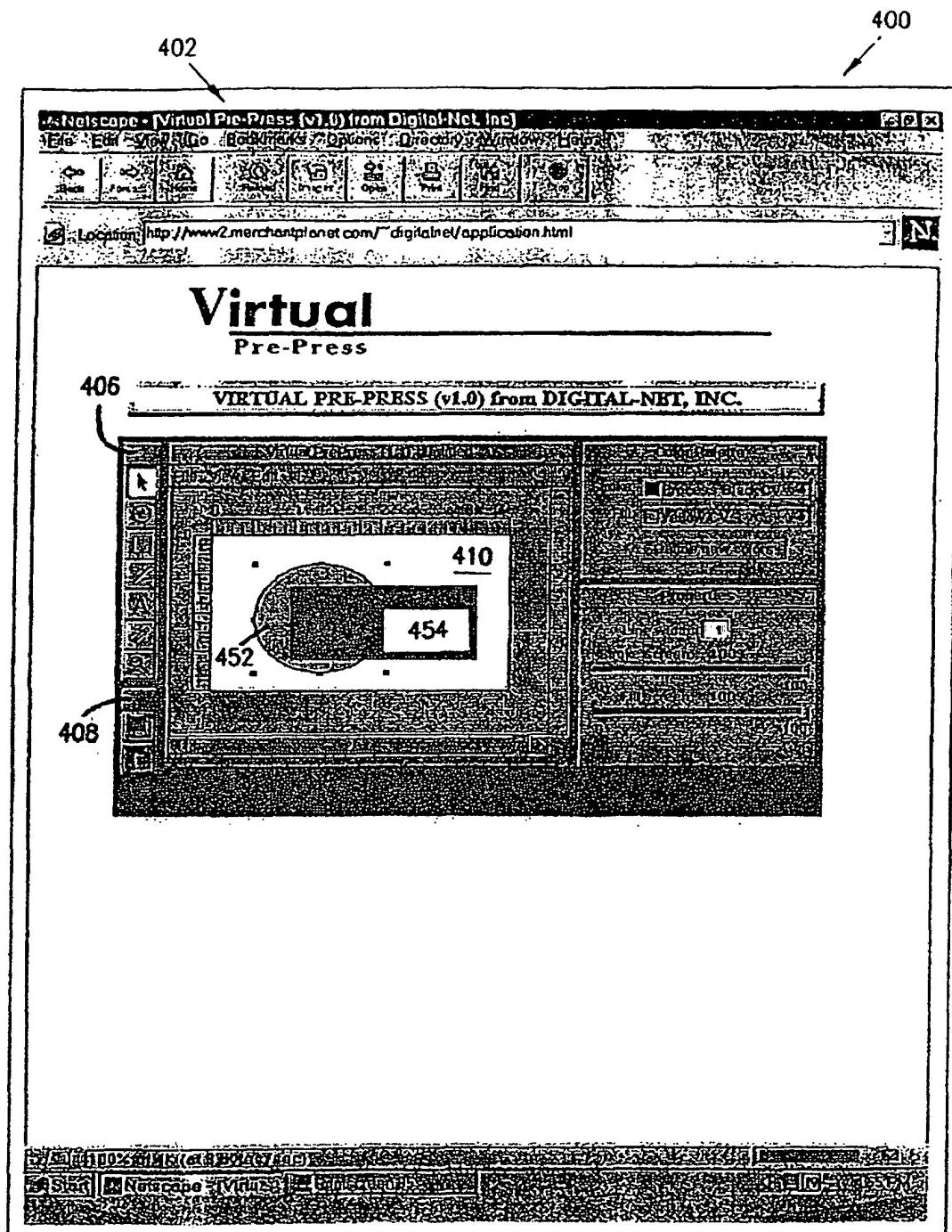


FIG. 4m